

LOAD LIMITER



WATSON-B



SPRING

**MACHINE CONTROL**

ON BOARD ELECTRONIC SYSTEMS





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This family of products is the result of the work of a team that has been carrying out for more than 20 years.

We have been designing – manufacturing – selling – installing electronic systems for industrial vehicles for more than 20 years.

**In a field where the manufacturers usually relay on the usual partners we have started a project called **DAVIDE vs GOLIA****

At SPRING machine control we are proud to be able to concentrate on an important goal even in such a difficult period of crisis.

**We are proud of our results, because we obtained them thanks to our own strength, ideas, capability, passion and above all thanks the faith that our clients put in our company.**

Our goal is not only to satisfy a technical request but also to offer a wide range of high performance products that can give profit from the management point of view.

**Your profit is an important part of our project.**

Please read carefully to better understand our **DAVIDE vs GOLIA**

**Special thanks:**

Clients– above all those who took the project to heart

R&D Smc

UTEC Smc

Technicians Smc

Suppliers Smc - above all those who overcame the obstacles

Thanks of taking part to the project **DAVIDE vs GOLIA**

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# WATSON-B

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## MOMENT LIMITER FOR KNUCKLE BOOM CRANE

The software of the system WATSON-B is a powerful Moment Limiter with the management of the stabilization of the machine, the safety on the road, the maintenance program and the Black Box Events.

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The WATSON-B system is made compliance with the requirement of UNI EN ISO 13849-1 and UNI EN ISO 13849-2 PL c about the crane for trucks.

### MAIN FEATURES:

- Management of the ARM1 and ARM2 pressures
- Rotation management in areas **+** or **X**
- Management of the stabilizers in 4 different positions
- Management of axis X – Y – Z concerning the chassis position
- Management of the radio controller
- Management H2-B3

### ITS STRENGTH:

- Data upload with USB industrial key
- Modules – Sensors – Electronic boards IP65



SPRING machine control was the first company to introduce systems with the opportunity to upload the software upgrade using a simple USB key.

This idea has changed the working habit; during the test and the service, the technicians are no more obliged to have a PC

This characteristics is appreciated not only by the manufacturer but also by the dealer that is able to set the parameters of the system during the final installation.



Software, hardware and sensors are manufactured with our trade mark.



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➔ Safety on the road included

## WATSON-B The Module

**NOW WITH  
NEW CASE**



WATSON-B is a MOMENT LIMITER. The system reads the main working pressure of the cylinder (ARM1 and ARM2), checks the position of the chassis, the position of the stabilizers and the feet on the ground. It also checks a general valve called “damp valve” that allows to keep the machine in a safety condition, the software can also manage the safety on the road. When the crane is in overload condition, the only possible movement is closing the extensions. During the overload is enabled a RESET function; pressing the button on the indicator every kind of movements is enabled, after 5 seconds it is necessary to wait 30 seconds before using this function again.

The load capacity can be reduced according to some special conditions:

- Stabilizers not on the ground
- Stabilizers on the ground but not completely out
- For the area (according to the working conditions)
- For category H2-B3 (bucket)

- 100%: when the LED is on at the same time of the LED 90% means that the system is in overload condition ( the only movements allowed are rotation, extension in and RESET). When 90% LED is off the system is in extra-overload condition (the only movement allowed is extension in).
- 90%: ON when the system reaches the 90% of the overload pressure
- ROT1: it indicates the front and back areas (front=off; back =on)
- ROT2: it indicates the left and right areas (left=off; right=on)
- STB R OUT: ON with right stabilizer completely out
- STB R DW: ON with right stabilizer on the ground
- STB L OUT: ON with left stabilizer completely out
- STB L DW: ON with left stabilizer on the ground

## WATSON-B

### New case for BRICKS

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As for the other systems of BRICK series, also Watson-B is now equipped with the **new advanced case**.

Made in a **special shockproof high-tech polymer with unique mold**, the new case has **increased the water resistance, the durability and resistance** of this system and it has **reduced its weight**.

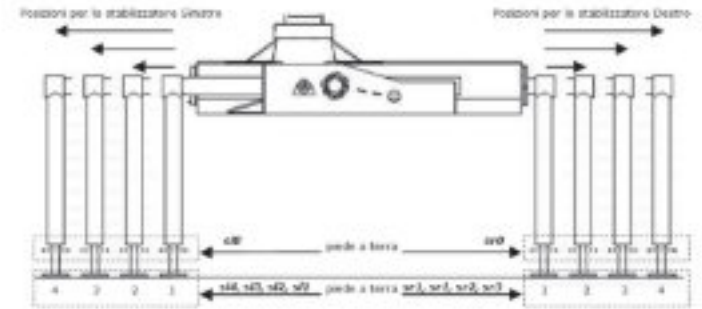
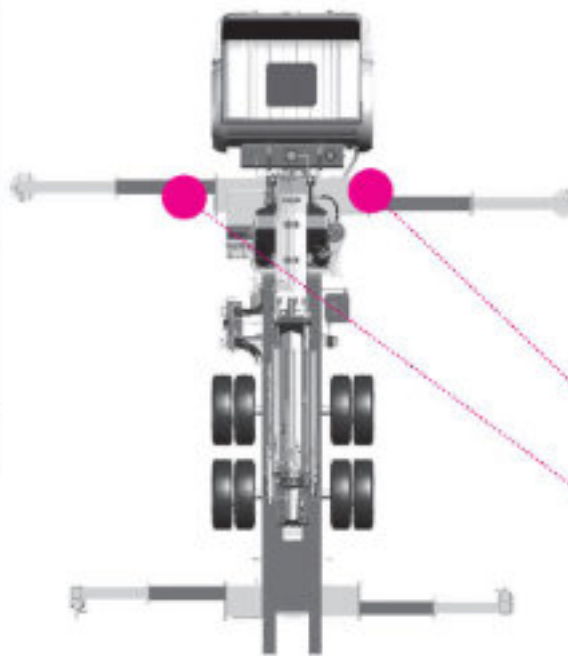
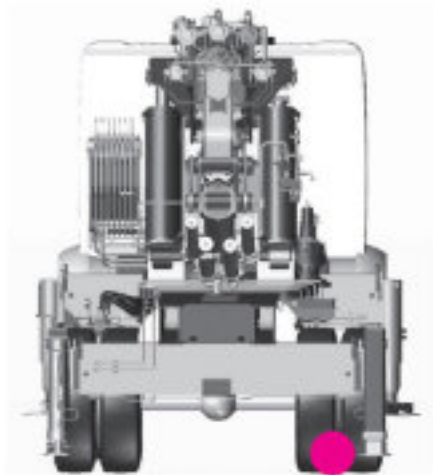
Moreover, now the **BRICK GATE** is on the front panel, for an **easier access**.

The new model has perfect **attachment and connection compatibility** with the previous models.



# WATSON-B

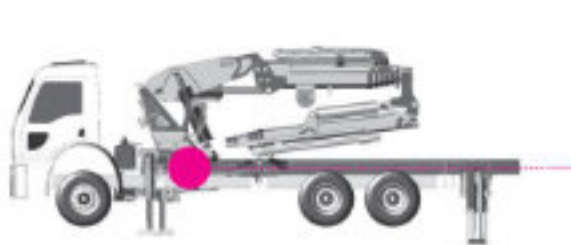
Management of the machine STABILIZATION: stabilizers out – feet on the ground



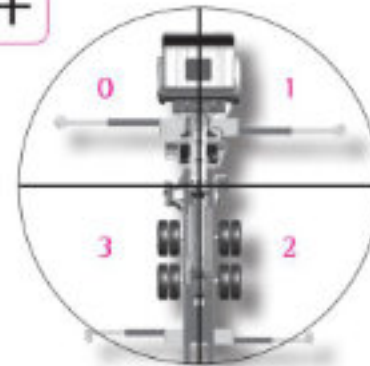
# WATSON-B

Management of the WORKING AREAS: 4 areas **+** or **X**

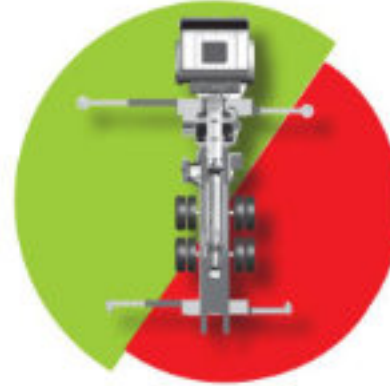
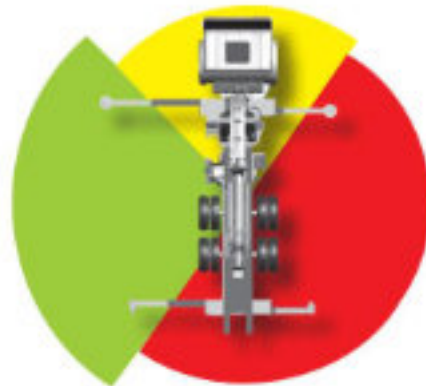
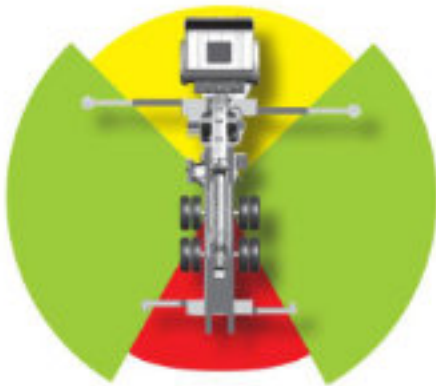
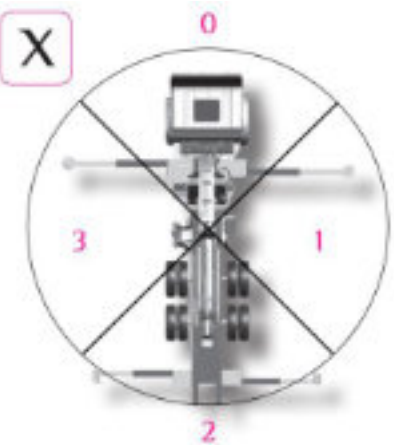
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**+**



**X**



## WORKING AREAS:

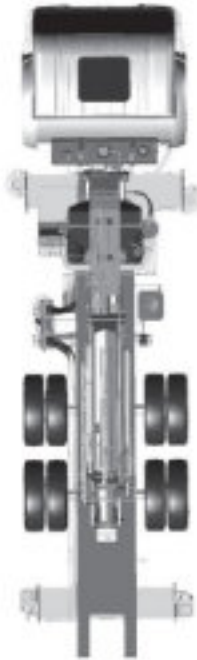
- RED
- YELLOW
- GREEN

Reducing of the capacity according to the working area and the stabilizers out/in and feet on the ground.

## WATSON-B

Management of the safety on the road: main arm in rest position – stabilizers in – feet up

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Audio-visible signal installed in the console of the truck



Green LED OK



Red LED with acoustic signal

# WATSON-B

## Technical and commercial features

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WATSON-B is particularly indicated for SINGLE KNUCKLE BOOM machines:

### Management of moment limiter:

- Pressure sensor reading ARM1
- Pressure sensor reading ARM2

### Management of the machine stabilization:

- Management right and left rotation
- Management foot on the ground of the stabilizers
- Management stabilizers out in 4 areas

### Management of the hydraulic lever control:

- Right and Left rotation
  - ARM1 IN and OUT
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Management of H2-B3, reducing of the capacity

RESET 5/30 to bypass the moment limiter

Management MAN RADIO for the management of the RADIO: RADIO ENABLE, RADIO OK and RESET RADIO

Management output TRAFFIC LIGHT control (OPTIONAL)

Management of the DAMP VALVE output

Management of the feedback DAMP VALVE output of the limiter

Management and supply of the emergency button with RESET function and visualization of the 90% and 100% of the max load

Management and supply of the sensor for the axles X-Y-Z to check the chassis; the limit can be programmed

Electrical wiring

INTEGRATED MANAGEMENT OF THE SAFETY ON ROAD (**NEW**)







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