


fresmak
BLOCK-SC

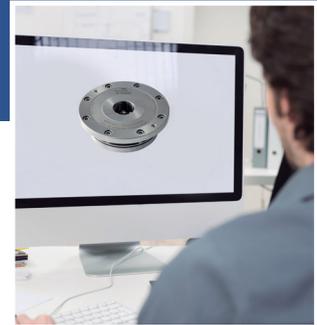
4.0



BLOCK-SC 4.0:
Smart clamping


fresmak

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Fresmak was founded in 1967 focused on manufacturing **high pressure vices**.

Nowadays, it has a **wide range** of clamping solutions and exports to over **50 countries worldwide**.

Above all, **Fresmak** are **people**. **Highly trained** professionals with a constant attitude to improve and innovate in all processes; from planning right up to its implementation at the customers facilities.

Specialist in clamping solutions



Values that make us different

Experience



Specialization



Service



Keys that help Fresmak become a worldreference in clamping systems



- ✓ Absolute expertise in the product.
- ✓ A team of highly qualified and experienced people.
- ✓ Latest technology.
- ✓ Constant R & D investment.

The **BLOCK-SC 4.0** consists of a **real time monitored and sensorized clamping system**, that allows detecting **wirelessly** and precisely the correct or incorrect **position** of the clamping jaws and the **pressure** in the system.

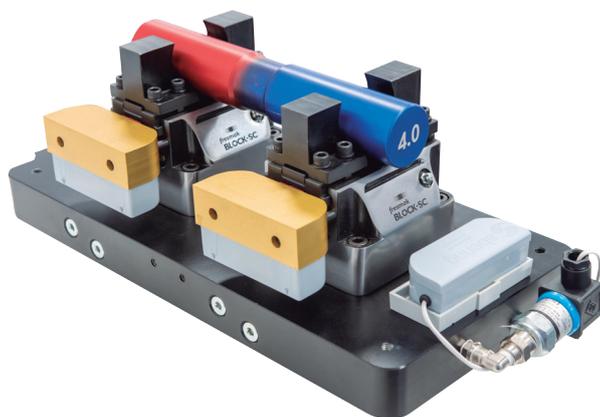
The system has a **user-friendly, wireless and inexpensive set of components** that allow the detection, **visualization and management** of the **clamping** conditions of the work-piece at any time, avoiding automatically unnecessary machining in case of wrong placement of work-pieces.



The BLOCK-SC 4.0 system

Designed for **working in hostile environments** (high temperatures, chips, cutting fluids, turning tables, moving tooling, etc.) it is fitted with a **potentiometer** that **accurately measures the position of the jaws**. When the work-piece is changed, **it is not necessary to manually modify the position** of the potentiometer in order to detect the new position.

A **pressure switch** detects the **pressure in the system**. Pressure over the work-piece must be ensured in addition to having the work-piece clamped by the jaws.

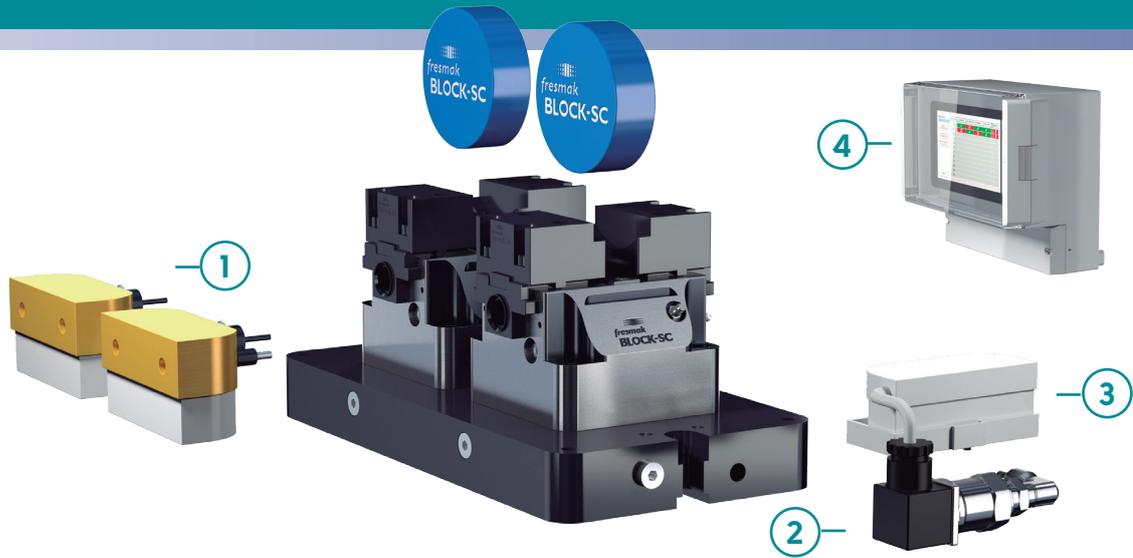


The **wireless communication system**, based on wireless sensorization and monitoring, is a key element. Due to the working environment of clamping systems, wired communication between sensors and the control unit or robot is not feasible.

All these elements are essential to **avoid machining of incorrect work-pieces**, which in many cases cause disruptions in the production process.



Elements of the system



1 Potenciometer

Positioning or displacement sensor.

2 Pressure switch

Pressure sensor.

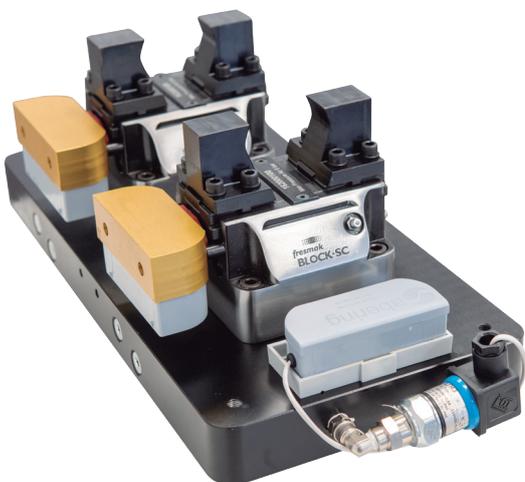
3 Communication

An RF transceiver allows wireless transmission of information captured by the sensors and processed by a microprocessor.

4 Control unit

It collects, processes and displays the information sent by position and pressure detecting sensors and generates relevant performance signals.

+ Characteristics of the system



- > **Simple, reliable and lasting** coupling to the BLOCK-SC.
- > Extremely **compact**.
- > Completely **watertight**, IP67 water ingress protection standard.
- > **Resistant** to elements such as chips and coolants.
- > It **sends information** of the position of the jaws **wirelessly** through RF with a maximum latency of 3 seconds.
- > There is **no electrical connection** with the outside.
- > Equipped with **long-lasting batteries**.



Control unit



It is equipped with a **touch screen** that allows both **monitorization** of each block as well as configuration of the different units. Small in size, it shows clear and intuitive information that allows the user to navigate through the existing menus in an user friendly way.

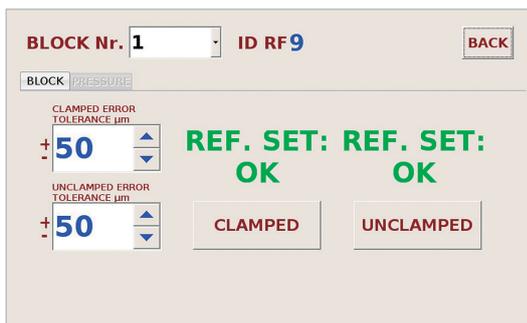
Provided with access rights in order to limit certain actions to defined users.

It can receive information from a maximum of 12 blocks, each of them related to a specific pressure and position sensor.



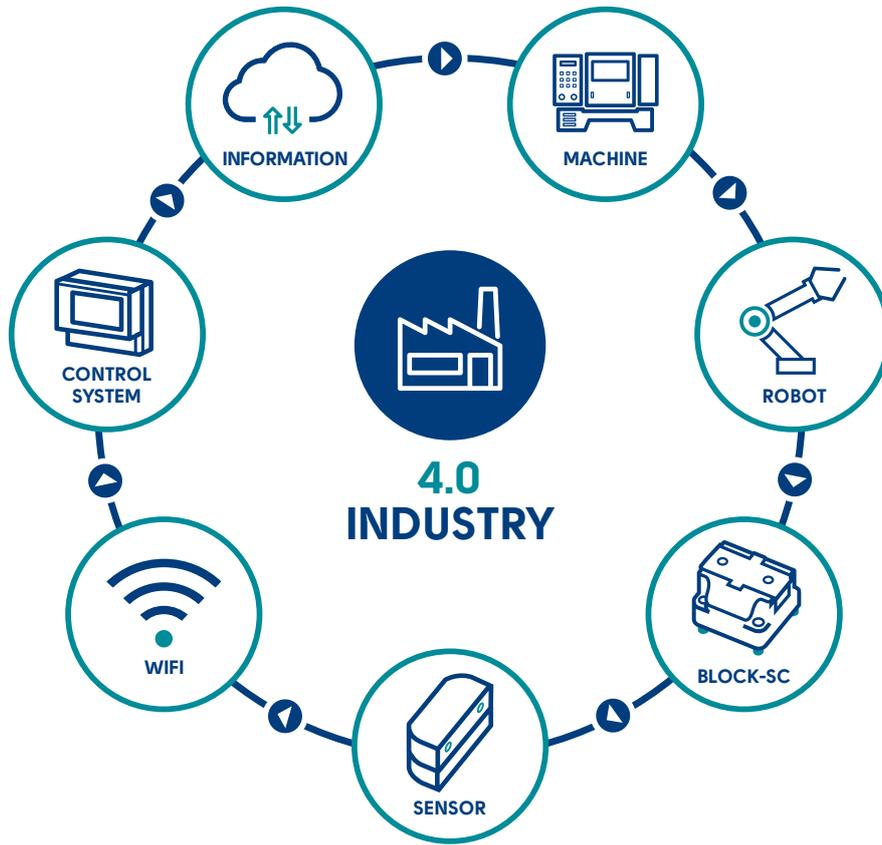
The touch screen shows the **status of each block**, if the work-piece is clamped or not, if the clamping is done properly and whether there is pressure. In addition, it also contains several configuration tabs that allow:

- **Assign** each BLOCK the position and pressure detection unit.
- **Wireless calibration** of position and pressure detection units.
- **Define** the correct clamping position and the unclamped position for each block and type of work-piece to be machined.



The display screen is **protected by a housing** that guarantees correct operation in an industrial environment. It has potential free relay outputs for accessing and machining signals that make possible a connection with a robot or similar, offering a complete electrical insulation.





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