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"IMC" - A DIGITAL BRAIN FOR FASSI CRANES

The innovative integrated and intelligent **IMC Control System** (**Integrated Machine Control**) is a real electronic brain able to elaborate in real time an enormous amount of information coming from the peripheral sensors and from the electro-hydraulic crane systems and therefore to handle the safeties and the best operative conditions to assure optimal performances according to the specific working situations.

Among the advanced functions that the system is able to handle, besides those of the main handling of the crane movements and of the load control systems (**FX** electronic lifting moment), there are the functions related to the differentiation of the crane capacity in relation to the truck stability, those related to the winch lifting couple limiter, to the check of the liftable load with the manual extensions, to the reading of the operating pressure to the distributor, to the activation of the oil cooler at the reference temperature that can be set and personalised with the parameters of the programme, to the personalisation of the radio controls (selection lever/manoeuvre, speed setting of the single functions, reduction of the lever dead band), to the activation of general reduced speeds by means of suitable parameters and to the handling of the **ADC** device for the automatic dynamics control.

IMC is an extremely "open" system, equipped with memories that can be implemented in the time and capable therefore to receive further evolutions and system updating concerning the development of new applications that Fassi is constantly studying and experiencing.

The handling software is installed on the electronic card of the main unit (master unit). The card is equipped a **double microprocessor** of new generation to assure a double crossed check of the data coming from the sensors/devices and to assure therefore the maximum safety in all the operating phases.

The software includes a part suitable for the statistics record of crane utilisation, important information to define the maintenance times or to verify if the crane meets the customer's needs.

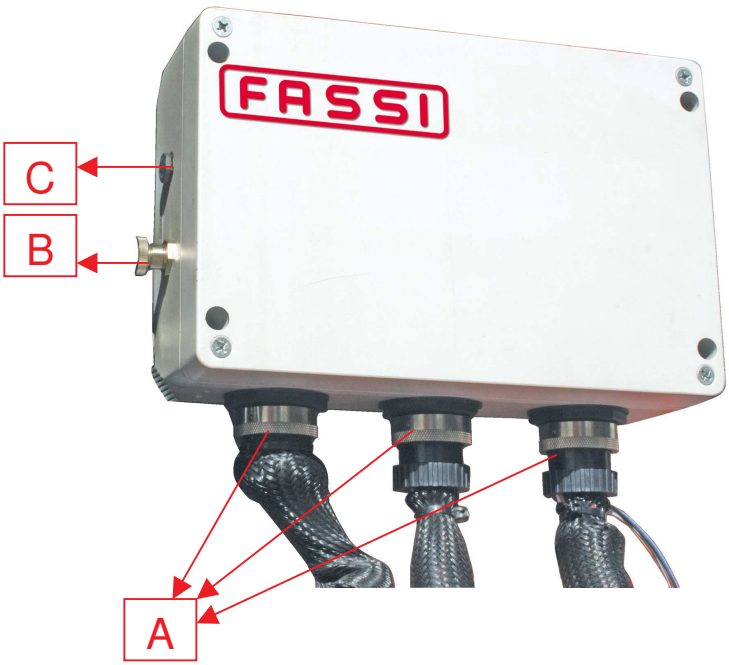
All the data coming from the devices/sensors/radio controls and from the digital distributors are handled via a **Canbus** digital data transmission system.

The electric wirings from the card to the sensors/devices are directed into some **connectors designed for severe automotive applications** and certificates with IP67 protection degree.

This allows never to open the box containing the electronic card; “female” connectors, which receive the internal wirings to which the “male” connectors (equipped with screwed fastening) are connected, are fixed to the box.
This system guarantees the contact between the terminals of the two connectors also in presence of stressful vibrations.

This photo illustrates the characteristics of the electric box containing the electronic card:

A. **Connectors** equipped with screwed fastening.
B. **Serial cable plug** for data download to PC.
C. **Anticondensate filter**: one-way plug preventing the formation of condensation inside the electric box.



Advantages for the operator:

- **The operative advantages** for the operator, due to the presence of the electronic card, which represents the brain of the crane, are obviously those related to the possibility to handle all the control, performance, safety, personalisation devices widely explained in the files concerning the electronic systems.

- From the point of view of the card, the certainty to count on **electronics and first-rate software,** widely tested**,** which guarantees the maximum reliability.

- From the point of view of the box and connectors/electric wirings, the technologic choices and of the materials assure the **maximum reliability** even in particular climatic conditions, maximum protection against weather conditions and resistance to the stresses due to vibrations and temperature.