

DSP LASER AP and MCS

SAFETY SYSTEM for the PRESS BRAKES

DSP LASER AP and MCS are the result of more than thirty years of experience that NUOVA ELETTRONICA has acquired in the field of safety of machine tools and especially press brakes.

This system harmonizes: compliance with the rules in force, the practicality of installation, ease of use, the speed of the bending cycle, the sturdy build with a very high relation between quality- performance and cost.

DSP LASER AP, where AP means high performance, comes from the now well-known and tested DSP LASER.

The special optical characteristics, which also derive from the use of the laser source, and the sophisticated electronic circuitry, in full compliance with the requirements of EN61496-1/2 and EN12622, guarantee the safety of the operator, not obstructing the bending cycle.

The robust design is also required for the particular position that the device must have on board.

MCS, also in Category SIL3, manages, in addition to DSP LASER AP, the entirety of the standard devices of which the press requires for its own function.

The solenoid valves that move the press, the lateral protection, the rear one, the emergencies, the descent and ascent pedals, the automatic locking tool, and more, are all components controlled by MCS.

This provides also to transmit to the CNC and receive from the serial port, alarms and controls. This characteristic also allows a great possibility to personalize the man-machine interface according to your company standard. MCS is still independent, so it can work well even on machines without CNC.



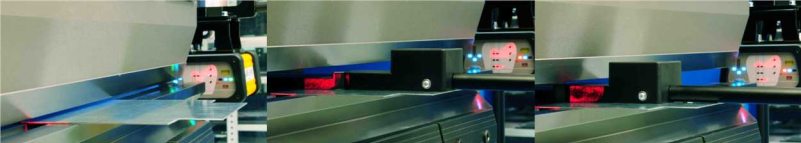
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MCS and DSP LASER AP allow the mobile part of the press to arrive in high speed very close to the sheet metal to be bent, while still making the operator work protected.

As it is visible in the first photo, the space that the movable part must go in low speed, 10 mm/s, is very short, very few millimeters. If the mechanical condition of the machine permitting, it is possible that this measure is even 2 mm. Only 2/10 of a second to arrive at the point of contact with the sheet metal and then the bend starts. In the second photo you can see the special testing instrument, built by the norm EN12622, which caused an emergency stop with its top 10 mm, the machine stopped before the instrument thoroughly.

In the third photo it is possible to observe that the part 5 mm higher than the one that caused the stop, passes easily between the sheet metal and the upper tool, a few millimeters under the latter. According to the norm EN12622 would have been enough just passing, which means that DSP LASER AP can provide a safety margin even greater than what is required by law. A series of sheltered employment, not penalized by delays caused by the safety system, it does mean a higher economic profitability of the machine, but also discouraging the widespread tendency to avoidance of these systems.

NUOVA ELETTRONICA has over thirty year experiences on systems that guarantee the safety of the press-brake operator.

A team of experienced and cutting-edge designers, the continuous technological innovation, the great attention for the development of safety regulations and a gradual expansion into foreign markets, have allowed NUOVA ELETTRONICA become one of the biggest realities in this field of industry.

In contrast to the general trend to outsource the production, we made the courageous choice to develop and produce completely our systems inside our factory to the benefit of the quality of them.

The electronic department is equipped with modern assembly lines for both surfaces, traditional components and systems for automated test. NUOVA ELETTRONICA is extremely proud, that it has a department for mechanical processing and a department for UV printing.



MCS is: ease of installation, space saving for electromechanical or electronic components, intuitive to the use.

It is protected from power surges and short circuits, is a good choice for the new press brakes, as for the retrofit sector.

MCS is equipped with pilot circuits with high output current, over 3 amps, so as to allow direct control of any model of solenoid valve in use on press-brakes.

The direct control combined with a cycle time of MCS very short, 2.5 ms, determines a response of the machine equally short; thus reducing the stopping distance, making a machine already intrinsically more secure.

Even the reading of linear encoders, which are present on the bending synchronized machine, are read directly from MCS that has thus always available verification of speed, position and what is necessary for the total control of the movement of the machine.

Equipping a new press-brake with MCS and DSP LASER AP, means to equip the machine with a safe, reliable and advanced technology. Updating a used machine with MCS and DSP LASER AP will be certainly easier. Many compromises necessary for the integration will be deleted. Even the space, that is the weakest point in the control panel of an old design, in this situation will be increased so that they can easily integrate the device.