

Lazer Safe PCSS-F

Machine control and safety system

- including guard system control

As one of the world's leading developers of critical machine control and operator safety systems, it's no surprise that Lazer Safe's **PCSS-F** (Press Control and Safety System) sets a new standard in power, flexibility and affordability.

The PCSS-F is a programmable operational control and safety system designed specifically to improve the performance and safety of press brakes, with the simplest possible interfacing requirements.

The PCSS-F completely replaces conventional contactors or general purpose safety Programmable Logic Controllers (PLCs) currently used for the control of press brakes and associated guarding systems. All press control, press safety and press operator guarding is handled by the PCSS-F. A variety of inputs and outputs are available and are configurable for standard non-safety functions, or can provide full **Category 4** safety performance in accordance with EN954.

The easy programming of the PCSS-F also offers unprecedented application flexibility. Overall integrity is assured with core safety functionality protected within the system's software kernel, with comprehensive user programming available in a number of different modes.

Lazer Safe's PCSS-F can be used in conjunction with the Lazer Safe **LZS-004 Operator Guard** to provide a highly effective and efficient single-supplier solution, or with any third-party guard product, such as a light curtain.

For the greatest flexibility in meeting a wide range of press requirements, the PCSS-F offers a range of I/O combinations.

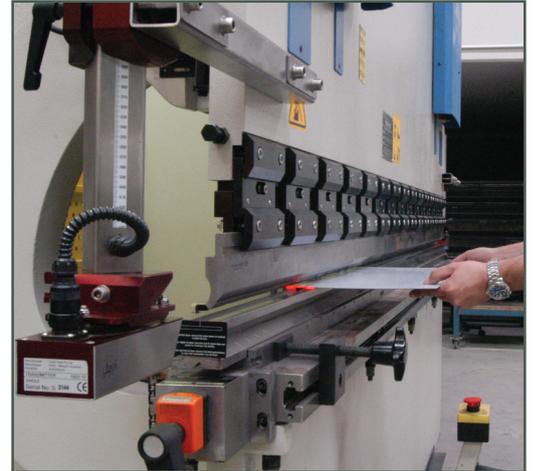
The PCSS-F has achieved CE certification from TUV and is also certified by UL.

Key advantages

- Lower total component cost compared to separate PLC and guarding system.
- Vastly shorter response times, with all time-critical functions responding in less than 1 ms (compared to that of current PLC / relay technology which is tens of times greater). An overall response time (including laser scan) of just 4 ms is possible, thanks to the integration of guarding and machine control. This has a significant implications for beam placement, crawl speed distances, deceleration zones, etc.
- Significantly reduced wiring complexity and simpler installation.
- Reduced cabinet space requirements.
- Direct communication between the press brake controller and the operational controller simplifies common actions such as: setting and changing the mute point without any stops in the stroke; checking that the laser beam position is correct relative to the tools and; eliminating crawl speed discrepancies and errors.
- Can interoperate with third-party operator control systems such as those supplied by Delem, Cybelec, ESA/GV and others, as well as third-party guarding products.

Operator guarding options

The base PCSS-F unit can control the press brake without an operator guarding system being installed. The Lazer Safe LZS-004 Operator Guard or a light curtain can be installed either at manufacture or retrofitted in the field. This requires the installation of the **Guard and Counter Module** plus the appropriate guarding system.



The solution at a glance

Cost-effective

Centralised control

- One system for operational and safety requirements.
- Modular design with flexible choice of inputs and outputs.

Reduced build cost

- No relays or relay logic required.
- Reduced wiring and installation cost.
- Costs less than conventional safety PLCs.
- Standard Function Blocks supplied.
- Programmable logic - readily developed, corrected or modified using IEC standard methods of programming.
- With guarding system, no separate modules such as muting devices are required.
- Simplified fault finding and resolution.
- Machine control cabinet can be smaller.

Reduced operator guarding cost

- Guarding control card added to PCSS overcomes the need for any associated control or muting hardware.

Single supplier

- A single supplier for press brake control, machine safety and operator guarding overcomes fault resolution conflicts.

Performance

Response time

- Fast response time reduces the chance of operational faults and safety shutdowns.
- Operation is managed to produce faster and smoother transitions - change of speed, stops, starts.

Reliability and machine safety

Overall design

- Electronic design certified to Category 4.
- Specifically designed for presses.
- Fast response times - time critical signals less than 1 ms.

Real time monitoring

- Optional high speed counter connected to press linear scales provides full failsafe real time movement monitoring.

Fault finding

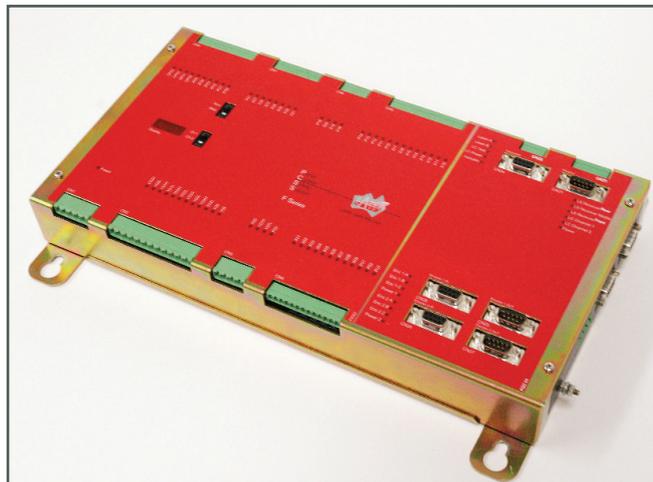
- Error messages allow easy identification of problems.
- Ability to monitor and view software operation simplifies fault finding.
- Modular design permits individual card replacement.

Operator guarding

Add-in Guarding Card and High Speed Counter

Lazer Safe LZS-004 Operator Guard

- Response time - 1 ms plus that for guarding system.
- Choice of guarding system - laser or light curtain.
- Low overall reaction time - 4 ms.
- Improves machine productivity by extending high speed distance and reducing low speed distance.
- Supports high speed and short stop machines.
- Communication with press brake controller allows information transfer: mute point setting; positioning of laser beam; elimination of pressing speed discrepancies.
- Reduced conflict between operational, press safety and guarding system logic and their suppliers.



Lazer Safe Pty Ltd

Tel: +61-8-9249 4388
Fax: +61-8-9249 6011
Email: info@lazersafe.com.au
Web: www.lazersafe.com.au

27 Action Road
Malaga WA 6090
Australia

