

# Lazer Safe LZS-004

## Operator Guard for PCSS Series Controllers

The Lazer Safe LZS-004 operator guard for PCSS Series hydraulic press brake controllers offers a highly effective solution for both operator safety and machine productivity. The LZS-004 has been designed exclusively for use with the PCSS-F Series press brake controller and is capable of performing a diverse range of actions automatically. The LZS-004 system includes a **Guard Counter Module** and laser **Transmitter / Receiver** pair.

The LZS-004 can be installed either at manufacture or retrofit in the field.

### Key features

- Extremely fast response time (1 ms + 4 ms maximum) reduces the stopping distance of the press brake, enabling the laser-to-punch distance to be reduced.
- Start-up tests on first stroke to measure stop time and stop distance.
- Checking for mute point based on tool information from the Numerical Controller, only stopping if it is incorrect.
- Checking that material surface is within limits and bending speed is correct on each normal stroke, then continuing without interruption if all are correct.
- When an obstruction is detected, the beam is stopped. When the obstruction is removed, one press of the foot pedal continues the normal stroke cycle. If the obstruction is not removed, two foot pedal presses will initiate a safe slow speed closure and bending without stopping. For situations where the obstruction is intentional, a higher mute point can be set in the Numerical Controller.
- "Tray / Box" mode allows operation when the side walls of the work-piece obstruct the laser beam. The height of the walls can be programmed in the Numerical Controller, allowing automatic monitoring and continuous operation.
- Once the tool opening is less than 6 mm, a pressing speed of 20 mm / sec is possible.
- "Field Muted" and "Stop at Mute Point" modes are also available.
- Laser-to-Punch distance can be programmed by software and can be used to check distances.
- High and low speed versions available.

### The productivity advantages

When used in conjunction with the PCSS Series of controllers, the LZS-004 Operator Guarding system enhances the controller's benefits, in particular the fast reaction time and higher productivity due to increased time the press operates at high travel speed travel and shorter stopping and change of speed distances.

The guard system combination automatically measures stop distance, then sets the maximum allowable stop distance and the laser beam-to-tool distance - this can be as little as 4 mm. This results in very short slow speed distances, which translates to faster cycle times.

### Light curtain option

As an option, a third party light curtain can also be connected to the Guard Counter Module in conjunction with the Lazer Safe Transmitter and Receiver. The PCSS controller can activate the appropriate guarding system to suit the bending process being performed. A light curtain can also be installed in place of the Lazer Safe Transmitter and Receiver.



## The solution at a glance

Add-in Guarding Card and High Speed Counter:  
Integrated guarding:

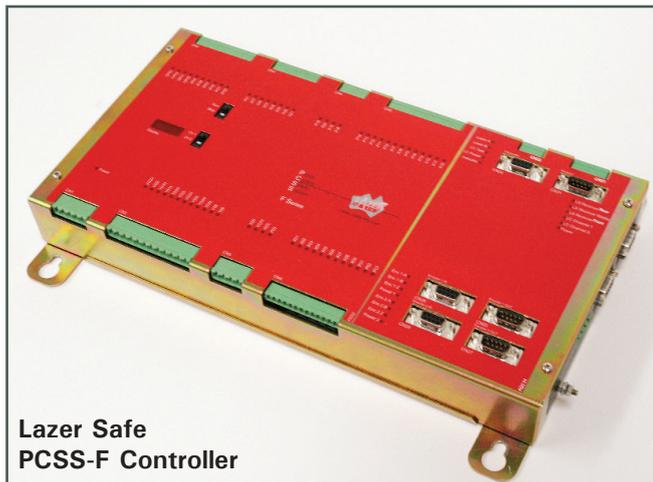
- Response time - 1ms plus that for guarding system.
- Choice of guarding system - laser and / or light curtain.
- Low overall reaction time - 4ms.
- Improves machine productivity by extending high speed distance and reducing low speed distance.
- Supports high speed and short stop machines.
- Communication 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.

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.



Lazer Safe  
PCSS-F Controller



Lazer Safe  
LZS-004 Laser Transmitter

## Specifications Functional

Vertical Adjustment Range:	450.0 mm (Hexagonal rail bracket) 310.0 mm (Linear bearing bracket)
Optical Range:	15 m net (distance between windows of Transmitter and Receiver)
Receiver Resolution:	3 mm
Reception Zone:	40 mm x 40 mm
Laser Classification:	Class 1 (IEC 60825-1)
Laser Dimension:	50.0 mm (W) x 2.0 mm (H)

## Environmental

Degree of Protection:	IP54 (all system units)
Operating Temperature:	0 to 55 °C
Storage Temperature:	-30 to 75°C
Humidity Class:	E

## Electrical

Supply Voltage:	5.0 V DC to Transmitter and Receiver
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