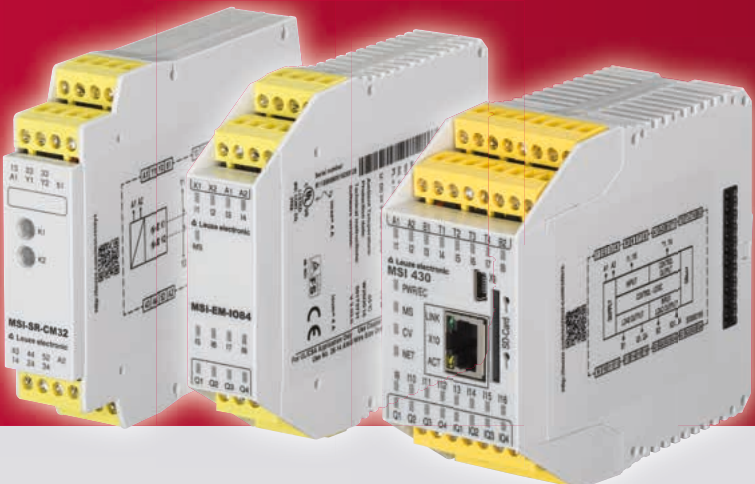


SMART  
**SENSOR**  
BUSINESS

# MSI 400

Safety controls for  
press applications



# IDEAL FOR PRESSES

Tailored function blocks for efficient control of eccentric and hydraulic presses.



The MSI 400 safety controls in the F50 models are specially designed for use on eccentric and hydraulic presses. They contain tailored function blocks for the control and protection of presses, and therefore make quick and easy programming possible.

The function blocks include monitoring of the press procedure and the control of different operating modes (single stroke, automatic, cyclic, setup mode). A shaft break detection signal can also be evaluated.

The MSI 400 safety controls fulfil requirements in accordance with EN 692 (mechanical presses) and EN 693 (hydraulic presses). Typical areas of application include small to medium sized presses with up to 200 strokes per minute.

The MSI 400 devices impress with their compact design, and can be adapted precisely to the requirements of the press with I/O extension and relay modules.

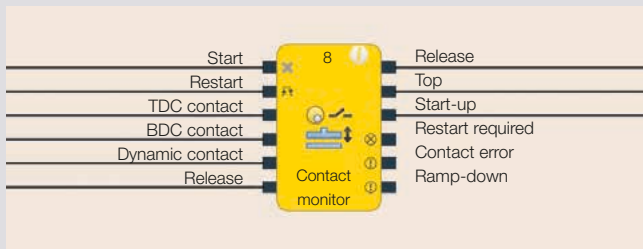
- Compact, flexible and expandable safety control for press applications
- Simple programming and configuration, pre-defined press function blocks
- Monitoring of
  - press procedures, e.g. via cam switch gear
  - shaft break sensors or speed sensors
  - safety valves
- Control of different operating modes (single stroke, automatic, cyclic, setup mode)
- Integration of operating units such as two-hand controls, foot switches, E-Stop and operating mode selector switches and safety sensors
- Simulation function and log generator for simple programming



### Monitoring of the press procedure

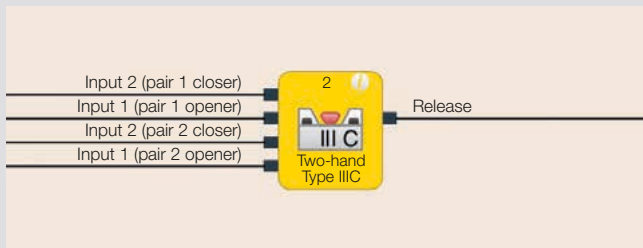
One universal function block and one that is tailored to eccentric presses provides all of the necessary properties for monitoring the press procedure.

- Monitoring the press cycle
- Overtravel monitoring
- Optional dynamic contact for eccentric presses or overtravel contact for hydraulic presses



### Integration of operating devices

- Connection of two-hand operating device in accordance with EN 574 or foot switch
- Also supports the control of multiple two-hand control units or foot switches for applications with more than one operator (multi-operator start)

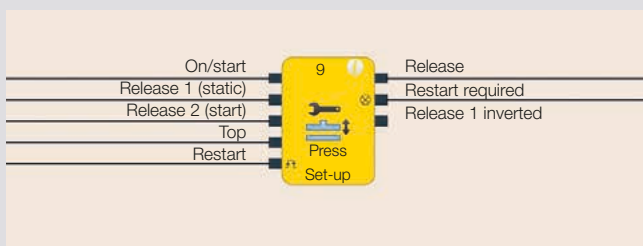


### Operating modes

Pre-defined function modules with configurable parameters enable simple programming and flexible adaptation of the operating mode to the respective press.

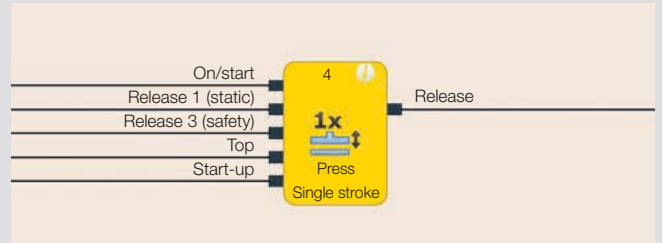
#### Set-up

- Supports inching mode for the setup process
- Optional, configurable restart interlock



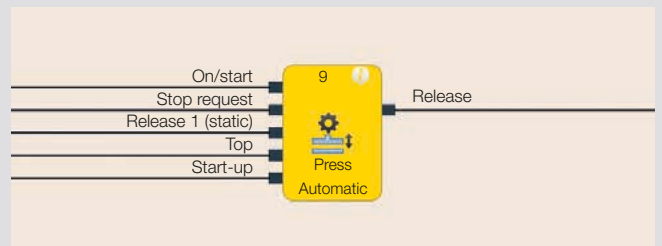
### Single stroke

- Each cycle must be restarted by the operator
- Configurable restart interlock
- Upward-stroke muting with adjustable time limit



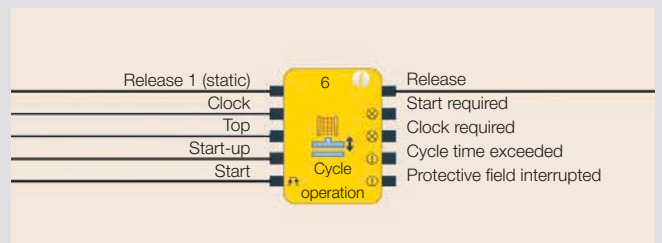
### Automatic

- For automated loading and unloading of the work pieces
- Generation of a stop signal on the top dead center by request
- Optional restart interlock



### Cyclic operation

- Optimization of the cycle time per work piece with the intervention of the machine operator in a safety light curtain to start a cycle
- Support of 1 or 2 cycle operation in accordance with EN 692/EN 693
- Standard and Sweden mode for start sequence



# SAFETY FROM A SINGLE SOURCE

Together with our safety sensors, we provide press safety for outstanding availability and productivity.



## MLC 500 safety light curtains

Due to the robust metal housing and the compact dimensions of 29 x 35.4 mm, the type 4 safety light curtains are ideally suited for point of operation guarding on presses. A wide range of resolutions and protective field lengths provide optimally tailored solutions.

- Compact and robust design
- Reliable operation even in the event of strong shocks and vibrations, using mounting brackets with damping elements and extra shock and vibration resistant MLC 500 models
- Simple implementation of protection against reaching under using host-guest models: Gapless safety without dead zone and reduced cabling efforts at the same time

## Safety switches and safety proximity sensors

The robust safety switches and proximity sensors monitor the closing status of movable protective devices and service access points.

### The ideal basis, also for retrofits

The efficiency and life expectancy of older presses can often be significantly increased by retrofitting. The safety equipment then also fulfills the current standard. Many firms are specializing in the retrofitting of presses.

The MSI 400 safety controls provide the ideal basis for retrofitting:

- Simple programming and configuration, pre-defined press function modules
- Comprehensive library with standard function blocks
- Compact, space-saving design
- Modular concept to adapt to application needs

