

# SIMATIC S7 Safety Integrated

## Press safety modules

Automating your press safety functions is now even easier and more cost-effective. Use the certified press safety modules and benefit from considerably reduced engineering overhead – from the design phase right through to the prototype test.

### Benefits:

- Maximum flexibility due to scalable products, systems, and solutions.
- Certified acc. to EN 954-1 Cat. 4 and EN 61508 SIL3.
- Machine prototype tests cost less and require less time
- The safety control is designed using standard components.
- Flexible implementation of central and decentralized safety concepts.
- Safety-related, standard communication via only one PROFIBUS or PROFINET network.
- Can be easily changed, expanded and documented.
- Increased plant availability with early fault detection thanks to improved diagnostics functions.

Product Brief • 2006/2007

# metal forming

# SOLUTIONS

Would you like pre-assembled and certified press safety modules that save you a great amount of time when testing machine prototypes? Then we have the perfect solution for you.

With our press safety module library for the SIMATIC S7-F safety control, you can rely on functional and certified modules and experienced expertise – perfectly documented and pre-tested.

With the press safety modules, you'll stay flexible and fulfill all of the important safety standards.

**SIEMENS**

# SIMATIC S7 Safety Integrated

## Complete press safety

### Press safety modules

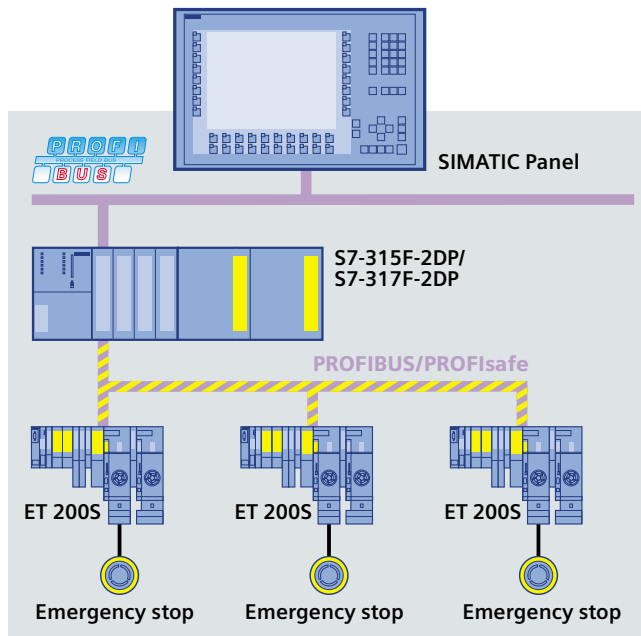
Presses are some of the most dangerous production machines and therefore they must meet the strictest safety standards. Extremely fast response times of the safety control and a defined, safe execution of the press safety functions are especially important.

Now there is a certified software library available for the SIMATIC S7 F that considerably facilitates the configuration of press safety functions by the user. A special feature: the press safety functions can be executed on the same CPU with standard automation.

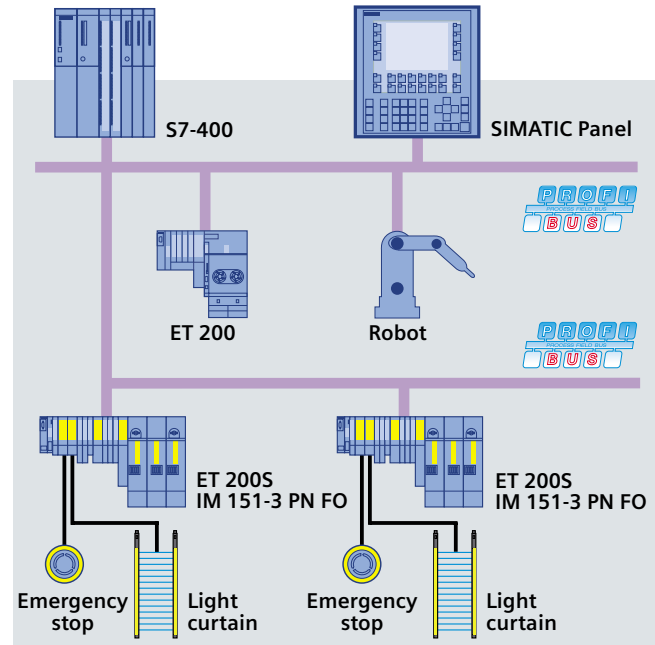
A CPU of the SIMATIC S7-300-F/400-F family is used as basis for the press safety functions. For small, decentralized controls, even a CPU from the ET200S-F family can be used. Depending on the quantity framework and response times, you can select different CPUs and thus set up flexible topologies.

The library of certified press safety functions can be used for the automation of mechanical and hydraulic presses and is certified according to EN 954-1 Cat. 4 and EN 61508 SIL3, complying with the press-specific standards:

- EN 692 "Mechanical presses – Safety"
- EN 693 "Machine tools safety – hyd. presses"
- EN 12622 "Safety of machine tools – Hydraulic die-bending presses"
- EN 13736 "Safety of machine tools – Pneumatic presses"



Standard and safety in a CPU



Distributed configuration with IM 151-7 F-CPU

### Overview of safety functions

- Operation and monitoring of a two-hand console/plug-in two-hand console
- Evaluation of non-equivalent and equivalent 2-channel foot switch/plug-in foot switch
- Operation and monitoring of a light curtain
- Operation and monitoring of a light curtain in safety mode
- Mode selection 1 out of n / mode selection 2 out of 6
- Release for one-person operation / release for multi-person operation
- 3-position enabling switch for 2 NO contacts and one auxiliary contact
- Emergency stop with and without restart inhibit
- Protective door (2-channel non-equivalent and equivalent encoder) without and with manual acknowledgement
- Protective door with tumbler with and without manual acknowledgement
- Dynamic valve control of up to 4 valves
- Monitoring of the propagation time and for discrepancies of an acknowledgement
- Monitoring of cartridge valves
- Control and monitoring of contactors and valves
- Control and static monitoring of contactors and valves
- Damping the brake of mechanical presses
- Control of valves of a mechanical press (coupling/brake)
- Control of valves of a hydraulic press
- Cam monitoring of eccentric presses
- Operation sensor (shaft break protection)
- Dynamic OT shutdown and shutdown in case of punch overload
- Monitoring of coasting of presses with linear drive

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