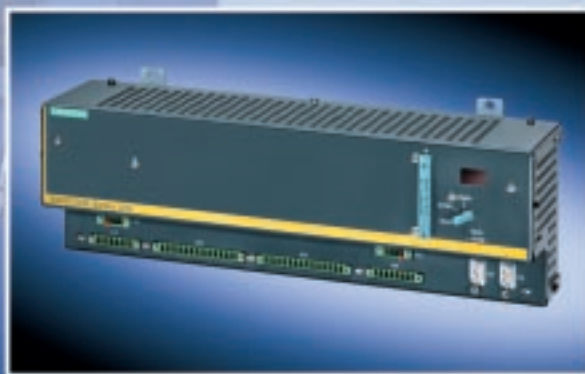


SIMOTION Safety Unit



solutions for metalforming

SIEMENS

SIMOTION Safety Unit

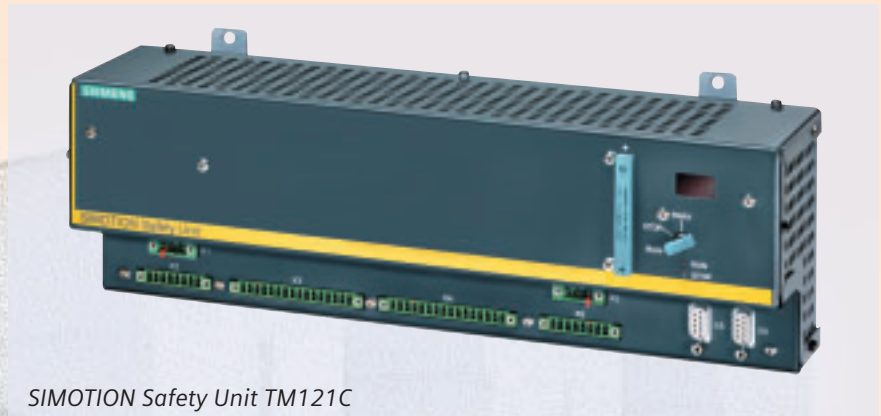
At all production machines, particularly presses, arrangements have to be made for the protection of the operating personnel in order to avoid hazardous situations during the manufacturing process. This can be done by equipping the machines with safety gates or light curtains. If, however, the operator has to intervene more frequently during the production process under normal operating conditions, the machine reactions must be controlled, e. g. by speed monitoring, to prevent a hazardous movement of the machine due to failures of the control and mechanical system.

The SIMOTION Safety Unit TM 121 has been developed to meet such requirements.

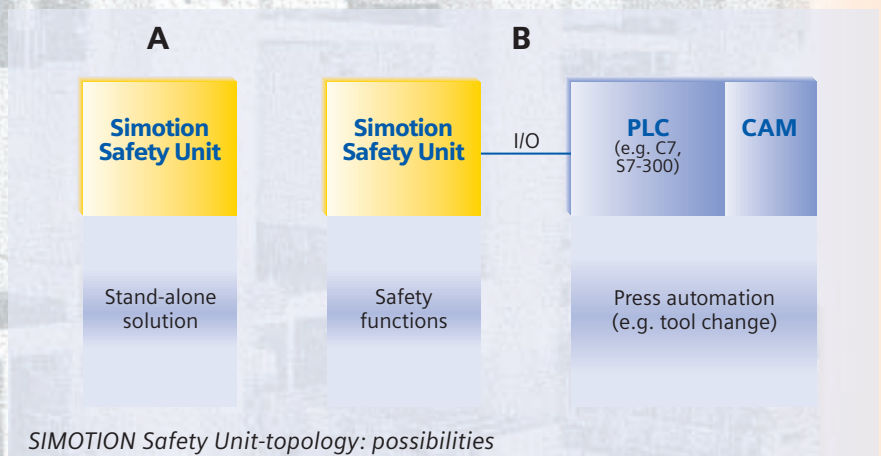
It is designed to meet the following safety requirements:

- EN 954-1 safety-related controller parts meets/exceeds Category 4
- IEC 61508 Functional Safety of electrical/electronic/programmable safety-related systems. Complies with SIL 3
- EN 61496 safety of machines, proximity-type protective equipment. Excerpts were considered, i.e. higher degrees of severity e.g. for mechanical stress or EMC.

Thus the requirements for implementing safety tasks at machines including manually operated presses are fulfilled throughout Europe and prepared for ANSI, OSHA and CSA safety.



SIMOTION Safety Unit TM121C



SIMOTION Safety Unit-topology: possibilities

Redundant (two-channel) electronic processor system with:

- 32 safety-related inputs, 24 V
 - 8 safety-related outputs, 24 V, 2 A
 - 8 standard outputs, 24 V, 0.5 A
 - 2 safe frequency inputs, 24 V, 500 Hz
- Inputs: selectively single- or double-channel
Outputs: single- or double-channel (P/N) switching

Power supply:

24 V DC

Mech. strength:

Fulfills a higher degree of severity in the case of mechanical stress according to EN 61496

SIMOTION Safety Unit-technical data

SIMOTION Safety Unit

Functions

The safety-related function blocks are stored in the Safety Unit. These function blocks are already completely programmed and certified and the user only has to parameterize or link them to the specific application. For this, a PC with the parameterization software is connected to the Safety Unit via the RS 232C (V.24) interface. The function blocks can be used repeatedly within a parameter set.

Example:

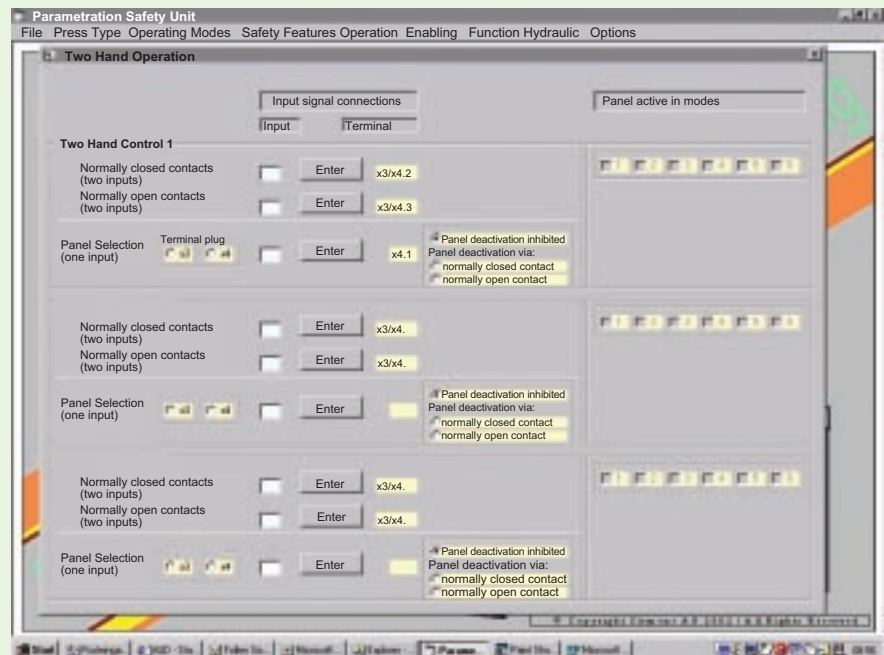
Function blocks for mechanical presses

- Two-hand operation
- Safe cam inputs (acceleration, deceleration, transfer)
- Operation mode selection
- EMERGENCY STOP ("power disconnect"), engagement lockout
- Clutch/brake combination control (with monitoring)
- Safety gate / guard / light curtain motion sensor control (through frequency input)

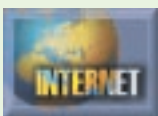
These functions can be activated using the parameterization tool.

Function blocks

- Two-hand operation including hand synchronism
- Foot operation
- Emergency stop link
- Safety gate and guard monitoring
- Safe mode selector switch
- Control and monitoring of safety valves
- Safe evaluation of cam signals
- Safe rotation monitoring



Sample screen of parameterization software



Further information can be found at

www.siemens.com/metalforming

The information provided in this brochure contains merely general descriptions or performance characteristics, which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.