

Palletizing systems



## SAFEMASTER STS

The key to  
more safety

Solutions for palletizing systems, racking  
systems and storage facilities

**DOLD**   
Our experience. Your safety.

# Safeguarding of palletizing systems

Several fatal accidents at work have occurred in and around palletisers in recent years. Experts from the employers' liability insurance associations investigated the accidents and found one thing in common: the safety of the palletizing systems was insufficient.

Palletizing of products is now integrated in almost every production process. These processes usually run automatically and have been part of the necessary work steps for many years. Thus, palletizing systems of different ages and designs are in operation. Consequently, protection concepts for safeguarding hazardous areas are often outdated or insufficiently implemented. However, many plant operators are not aware that there may be a need for action in their plant.

Fatal accidents or the investigation of other accidents have shown that the main reason for entering the hazardous area of the palletizer is to eliminate the failures. For example, blocking when individual packages are entering or cleaning up fallen goods. For this reason, the drive of the system must be switched off and secured against restarting before eliminating faults. With the safety switch and key transfer system SAFEMASTER STS, DOLD has developed a solution which combines the advantages of safety switches, guard locks, key transfer and command functions in one system.



## Challenge

The machine must be switched off safely before carrying out any removal of malfunction or repair work. Depending on the application, an additional release signal, e.g. via a PLC, must first be sent to the solenoid interlock in order to be able to open the main access of a safety area. Only when these criteria are met and the system is safeguarded against being locked in and restart, the access doors may be opened for the elimination of faults.

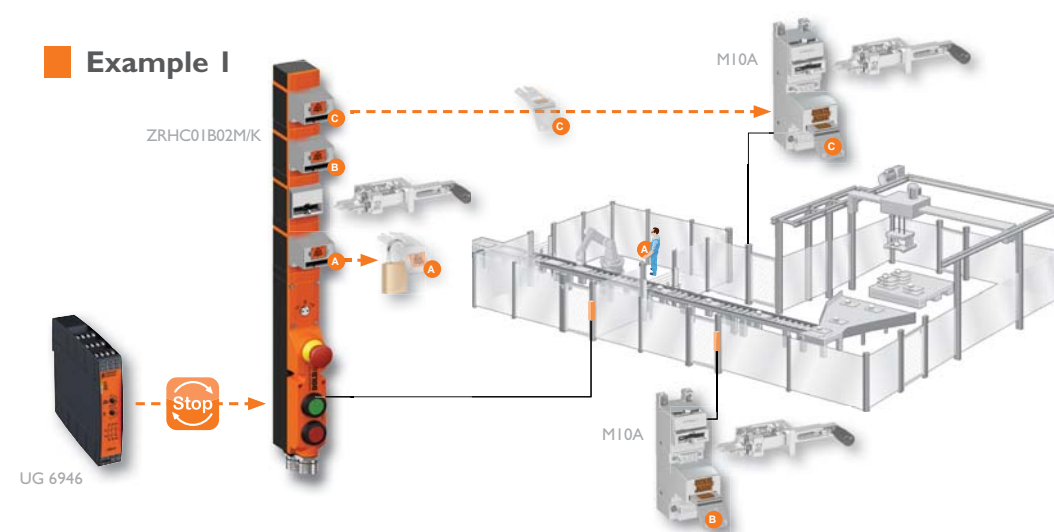
## Solution

SAFEMASTER STS can be used to force predefined procedures that make it safe to enter a plant. This is ensured by the tamper-proof key transfer. SAFEMASTER STS offers various protection options for systems such as palletisers (see examples). The possibility of safeguarding accesses and safety gates mechanically and without wiring saves costs during installation and increases the availability and ergonomics of the system.

## Advantages

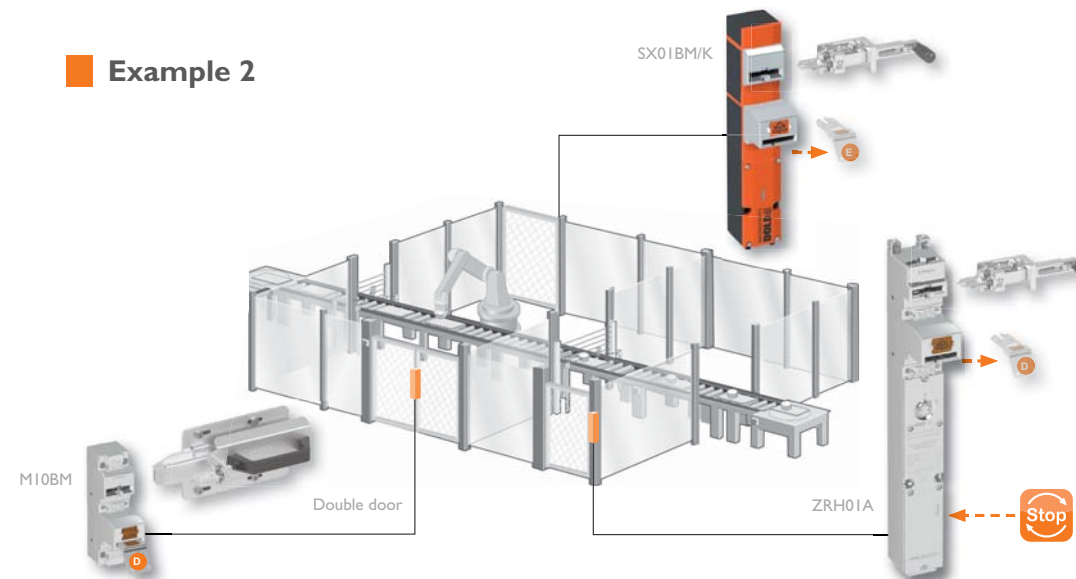
- ▶ Wireless protection
- ▶ Modular, expandable system
- ▶ Direct command execution at entrances
- ▶ For safety applications up to Performance Level e / Category 4
- ▶ Highly robust stainless steel version can be combined with fibre reinforced polymer (FRP) version

## Example 1



Before entering the plant, the machine must first be shut down in a controlled manner. This is done by pressing the release button (red) on the locking unit (ZRHC01B02M/K). Shutting down the drive of the plant is monitored by the safe sensorless standstill monitor (UG 6946). After the release signal is applied to the locking unit (ZRHC01B02M/K), the key A can be removed and the access can be opened. Key A is taken into the system by the operator to protect it against being locked in and unexpected restart. As additional protection, the key has a recess that allows a personal padlock to be inserted. In the application example 1 shown, after opening the main access, up to two further maintenance doors (B & C) can be opened safely and without wiring.

## Example 2



Application example 2 shows the protection of a palletizing system with several accesses. The maintenance accesses of the plant are electromechanically protected, the double door of the main access without any wiring, purely mechanical. The key D on the guard locking (ZRH01A) is released by an enable signal, for example from a control room. Key D, which also serves as a personal key for protection against locking, can be removed and the double door (M10BM) at access D can be opened without wiring. The main access D is safeguarded with a CW bolt actuator, which is particularly suitable for safeguarding safety guards where high forces are applied. In addition, service door E is protected with a safety switch (SX01BM/K). After the key E has been removed, the plant is safely shut down and the access can be opened and entered.





SAFEMASTER STS combines the advantages of safety switches, guard locks, key transfer and command functions in a single system. The new fibre reinforced polymer (FRP) variant impresses with its sleek functional design and its ability to be combined with the established stainless steel system.

You can select the FRP variants for the control panel and use the robust stainless steel versions in rough environmental conditions.

## SAFEMASTER STS – Modular safety switch and key transfer system



SAFEMASTER STS is tested and approved according to statutory requirements, and as a stand alone or monitored system is suitable for use in safety applications up to Cat. 4 / PL e in accordance with EN ISO 13849-1.



**E. DOLD & SÖHNE KG**  
P.O. Box 1251 • 78114 Furtwangen • Germany  
Tel: +49 7723 6540 • Fax +49 7723 654356  
dold-relays@dold.com • www.dold.com