

Recycling industry



## SAFEMASTER STS

The key to  
more safety

Solutions for recycling plants



**DOLD** 

Our experience. Your safety.

# Safeguarding of recycling plants

The recycling industry often uses hazardous machines for separating, shredding, sorting and transporting waste in rough and extreme environmental conditions. The greater the size and complexity of the plants, the greater the risk of accidents. Typical hazards, e.g. when trying to clear faults are, bruising and damage too or loss on limbs, which can often lead to a fatal outcome. For this reason, the drive of the plant or of the plant section must be switched off and secured against being switched on again before rectifying faults. To cope with these rough operating conditions, DOLD has developed the SAFEMASTER STS safety switch and key transfer system. A robust solution which combines the advantages of safety switches, guard locks, key transfer and command functions all in one system.

## Challenge

When carrying out maintenance and repair work, the machine must be safely switched off. Depending on the application, an additional safety release signal must first be created in order to avoid accidents, e.g. caused by run on movements of the machine or elevated temperatures. Only when these criteria are met and the system is safeguarded against being locked in and restart may the access doors be opened. Usually for this application environment a high performance level, PL d or PL e is required, without fault exclusions. Safety systems must also be able to cope with these extreme conditions and be able to withstand rodent damage.

## Solution

With SAFEMASTER STS, predefined processes can be enforced for system restarting, which then makes it safe to enter a system. For machines and plants in the recycling industry, this is ensured by forced key transfer. SAFEMASTER STS offers two shutdown alternatives: Power Interlocking and Control Interlocking (see examples). The possibility of mechanically and wirelessly safeguarding entrances and safety doors, saves installation cost and increases the availability and ergonomics of the system.

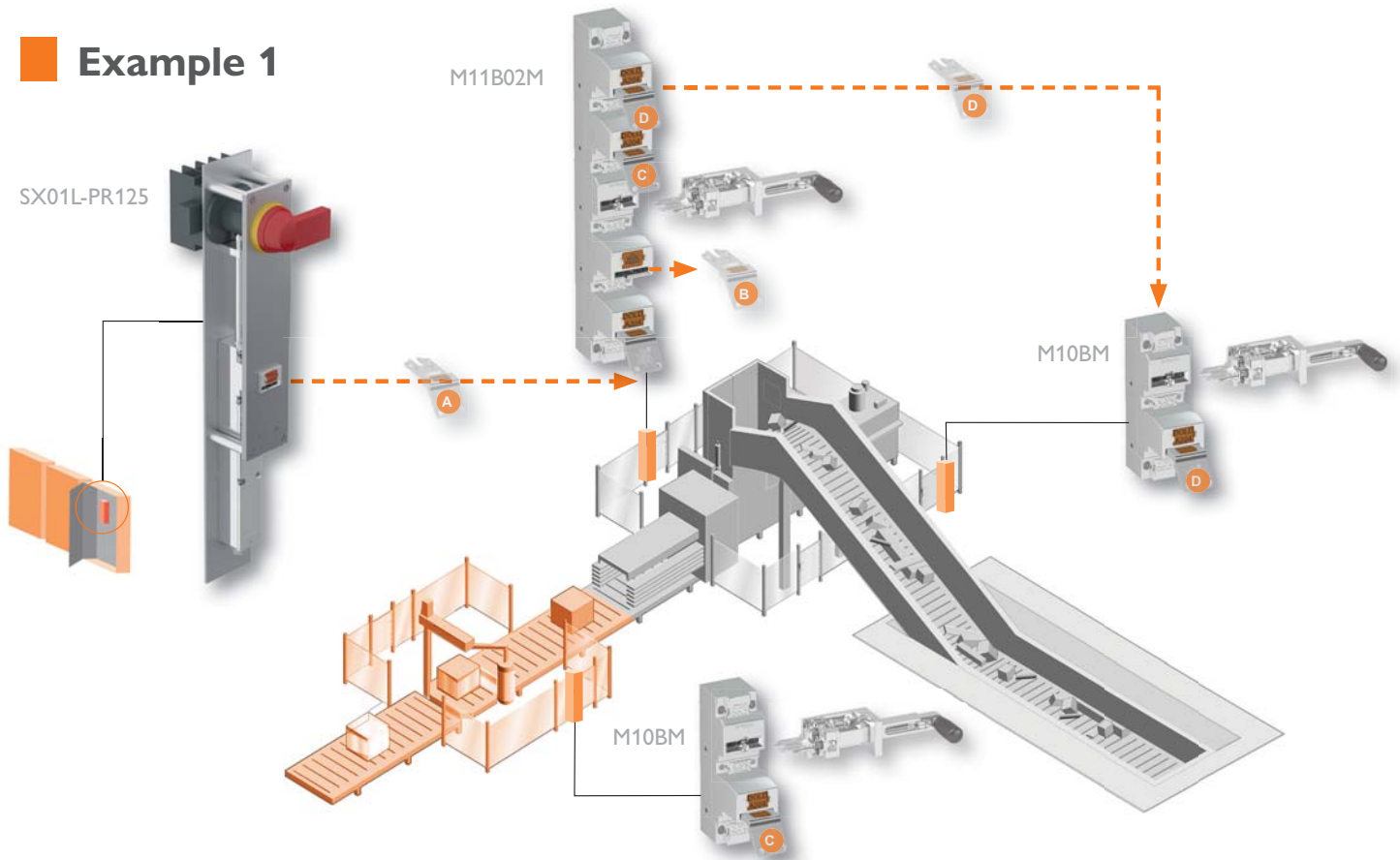
## Advantages

- ▶ Highly robust stainless steel design
- ▶ Wireless protection
- ▶ Modular, expandable system
- ▶ For safety applications up to Performance Level e / Category 4





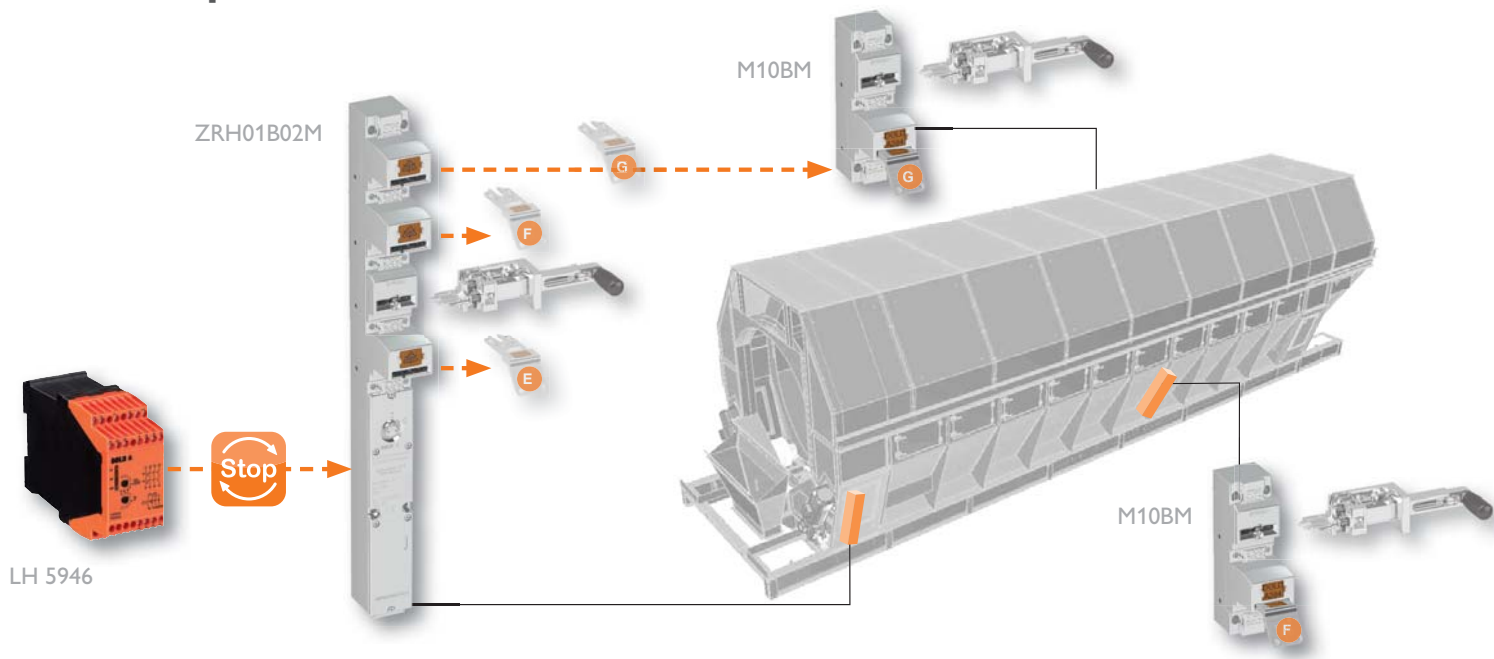
## Example 1



### Power Interlocking

The application example shows the safeguarding of a baler and integrated packaging unit. After the plant has been switched off via the load-break switch (SX01L-PR125), key A can be removed and further keys can be released at a key changer (M11B02M). To protect against being locked in and unexpected restart of the system, a personal key B must be removed from the key changer before entering the press. After unlocking the actuator, the keys C and D are released, for example to carry out maintenance on the plant. The plant can only be restarted after all keys have been inserted back into the initial position.

## Example 2



### Control Interlocking

The application example shows a screening drum as used for the separation of packaging material. It may be necessary to regularly enter this area of the plant in order to remove blockages. It is not possible to attach an escape release to such a machine. Therefore, after switching off or stopping the machine (sensorless standstill monitoring with LH 5946), the operator must first remove a personal key E to protect himself against being locked in or unexpected restart of the machine. Keys F and G open the inspection covers at the rear of the machine. The plant can only be restarted after all keys have been inserted back into the initial position.



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.



**DOLD** 

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