Mixing plants

SAFEMASTER STS

The key to more safety

Solutions for mixing plants, agitators and homogenizers

DOLD

Our experience. Your safety.

Safeguarding of mixing plants

In many areas of industry, machines are used for mixing a wide variety of materials. For example mixers, agitators, homogenizers are used in the production of ready-mixed concrete, bulk material, chemicals as well as in the food industry and dairies.

All these systems have one thing in common. Maintenance or repair work must be carried out on a regular basis with a high risk of serious accidents taking place. The often rough ambient conditions mean that conventional solenoid interlocks with escape releases are often unsuitable. The complex wiring often leads to malfunctions or failures of the control system. 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 for the cleaning process be opened.

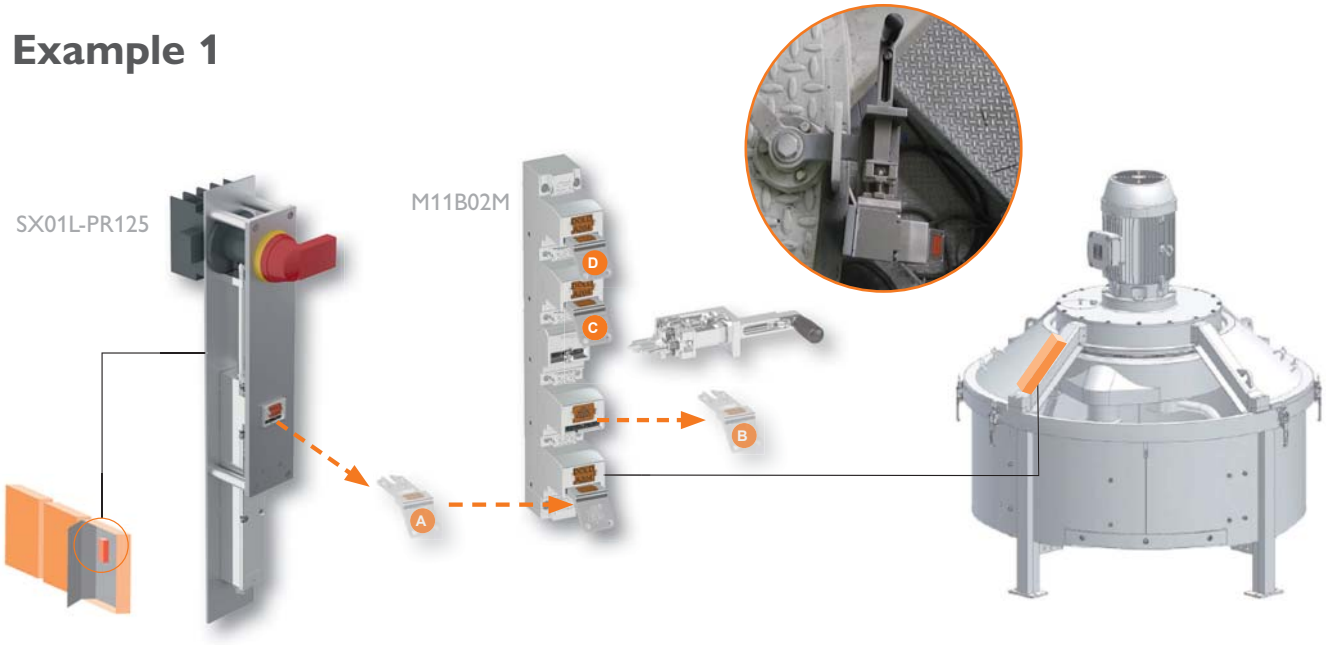
Solution

With SAFEMASTER STS, predefined processes can be enforced for system restarting, which then makes it safe to enter a system. For plants such as mixers and vessels, 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

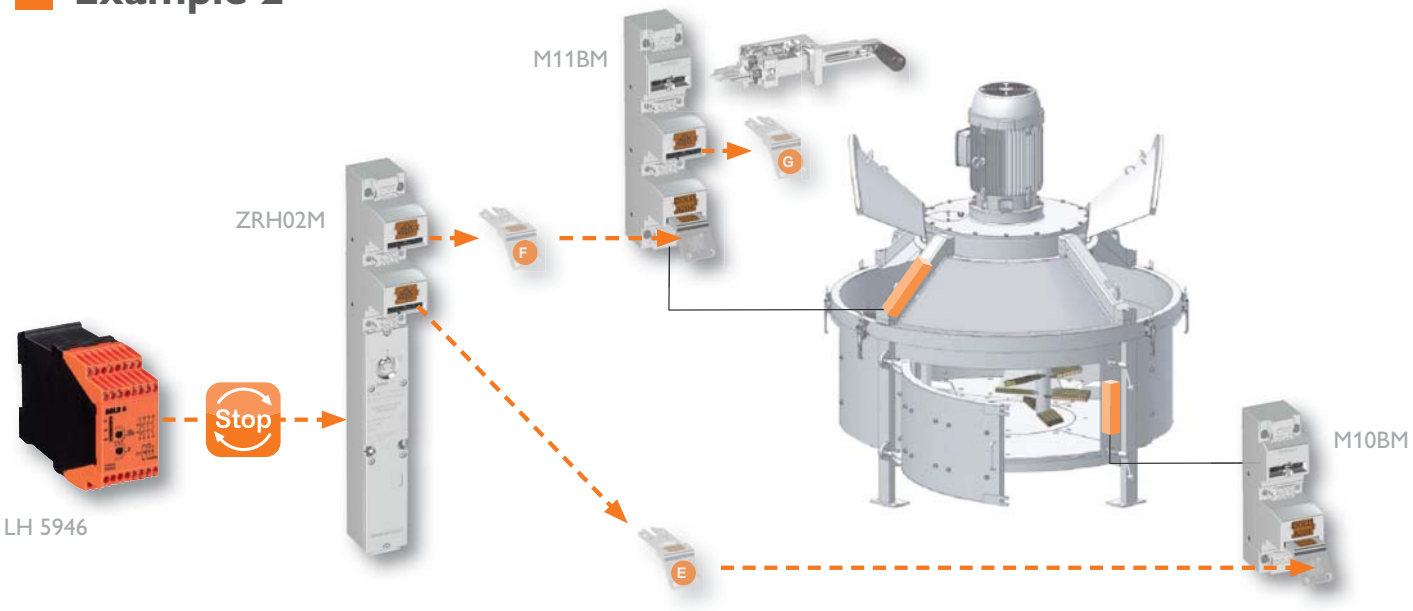
Example 1



Power Interlocking

Key A is required to enter the machine. To release key A, the load-break switch (SX01L-PR125) must first be switched off safely. The key of the integrated locking unit can only be removed after the load breaker has been switched off. When the key is removed, the switch is mechanically locked by means of an integrated locking bolt. The locking bolt also prevents the key from being removed when switched on. After removing key A, it is inserted into the mechanical guard lock (M11B02M) on the access cover. Key B must then be removed before the access cover can be opened using the actuator. Key B is taken into the machine by the operator to protect against being locked in and unexpected restart. In example 1 shown, up to two other persons can remove a personal key (C & D) from the mechanical guard lock in order to enter the machine.

Example 2



Control Interlocking

The two keys E & F are required to clean the system. To do this, the machine must first be shut down in a controlled manner. The shutdown of the plants is monitored by the safe sensorless standstill monitor (LH 5946). After the release signal is applied to the key guard lock (ZRH02M), the two keys E & F can be removed. The mechanical guard lock (M10BM) on the inspection cover can be opened with key E. Key F is used to unlock the mechanical guard lock (M11BM) on the access cover. Before it can be opened, the personal key G must be removed. As in example 1, this serves to protect against being locked in and unexpected restart. In addition, the actuators of the mechanical guard locks at the inspection and access cover can be provided with the "medium" coding level to prevent manipulation of the system.

VIDEO

+ Info

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 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.

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