

SAFETY PRODUCTS

# Safe door monitoring with safety lock solution MKEY RFID, Sentry and AFS Safety Contactors

- **Robust Design**
- **Easy to install**
- **Easily reach highest level of safety**



## Application

For high-risk applications (where the risk assessment shows a risk for life or limb) it is usually not sufficient to only monitor a door - it also needs to be safely locked. MKEY RFID simplifies safety by combining the two different safety functions – interlock and safety lock – into the same product. It can be used on doors and hatches to protect people from machines with long stopping times, by keeping the movable guard locked and interlocked.

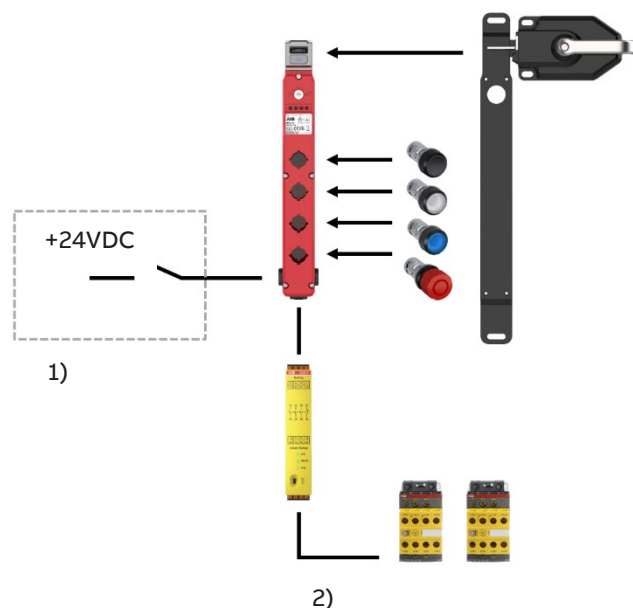
A long stopping time may be caused by, e.g., movable parts taking time coming to a complete halt, or heat being vented in an oven. When the kinetic or heat energy is spent and gone, entry can be granted.

MKEY RFID has an integrated non-contact RFID sensor for interlocking and safe supervision of the door. It also enables mounting of four pilot devices, to be used for, e.g., reset, emergency stop and request to enter. Note that it is possible to solve the time-before-entry for an entry request by using a safety timer relay like Sentry TSR.

## Functional safety level

The safe interlock and safety lock (mechanical and RFID) makes it easy to reach PL e/SIL 3 for the interlocking function according to EN ISO 13849 and IEC 62061. For the locking function to reach PL e/SIL 3 a fault exclusion for the mechanical breakage of the key must be made, which is easiest to achieve using the bolt or handle accessories. MKEY RFID meets the coding requirements according to EN ISO 14119 regarding manipulation protection.

The illustration below shows the principle for the interlock and safety lock/unlock functions. Please note that the reset function needs to be implemented in the safety relay, and a request to enter needs to be sent to the control system for processing.



- 1) Safe unlocking condition can be realized in different ways, e.g. cool down time or stand-still monitoring function etc.
- 2) Including EDM (External Device Monitoring)



MKEY 10RF



CP1-11L-10

MKEY 10 RFID  
R Handle

SSR10

AFS Safety  
Contactor**Ordering information MKEY Safety Lock.**

Description	Order code
MKEY10RF Die-cast safety switch with RFID, M20 conduit and place for 4 pilot devices	2TLA050012R0612

Additional information can be found in the [MKEY RFID manual](#) and [MKEY RFID data sheets](#).

**Ordering Information Compact Series Pilot Devices.**

Description	Order code
Compact momentary pushbutton, 1NO contact, illuminated blue	CP1-11L-10
Compact momentary push button, 1NO contact, black	CP1-10B-10
Compact momentary pushbutton, 1NO contact, illuminated white	CP1-11C-10
Compact emergency stop, 2NC, twist to release	CE3T-10R-02

Additional information and other option for pilot devices can be found in the [US Pilot Devices manual](#).

**Ordering Information MKEY Accessories.**

Description	Order code
Rotary handle for MKey10RF. Including RFID actuator. Right hand.	2TLA050040R0605

Additional information can be found in the [MKEY RFID manual](#) and [MKEY RFID data sheets](#). RFID actuator can also be ordered separately of the handle is not needed.

**Ordering Information Sentry Safety Relay.**

Description	Order code
SSR10 - Single function safety relay with screw terminals	2TLA010050R0000
SSR10P - Single function safety relay with push-in terminals	2TLA010050R0001

Additional information can be found in the [Sentry Safety Relay](#) data sheet. Wiring can be found in the [Sentry Wiring Examples](#).

**Safety Contactors**

The AFS contactors are dedicated for safety applications. See [AFS contactors data sheet](#) for range and selection.