SAFEMASTER C

Safety *plus* Multifunction

Multifunction safety modules with selectable
safety functions and safety time functions

DOLD ®

Our experience. Your safety.

SAFEMASTER C – Safety modules
Simply multifunctional

SAFEMASTER C

Safety at all levels – flexible to use

Whether it is used as an individual device or integrated into a complex safety system, SAFEMASTER C devices are the right safety modules to protect safety areas and to monitor machine safety.

A variety of uses thanks to multifunction

Whether it is to monitor two independent safety functions using only one UG 6970 or using a safety function and safety timefunction with the UG 6960. It is not a problem for SAFEMASTER C devices! The exceptional thing: You only need one device type for many different application examples. This makes materials planning easy and saves on warehouse costs.

Manual or automatic starting

The safety functions are activated with an external start button or automatically as well using the integrated, monitored start function. The start configuration appropriate for your safety concept can be configured together or separately for both safety functions. Moreover, the start button is secured with a line fault detection.
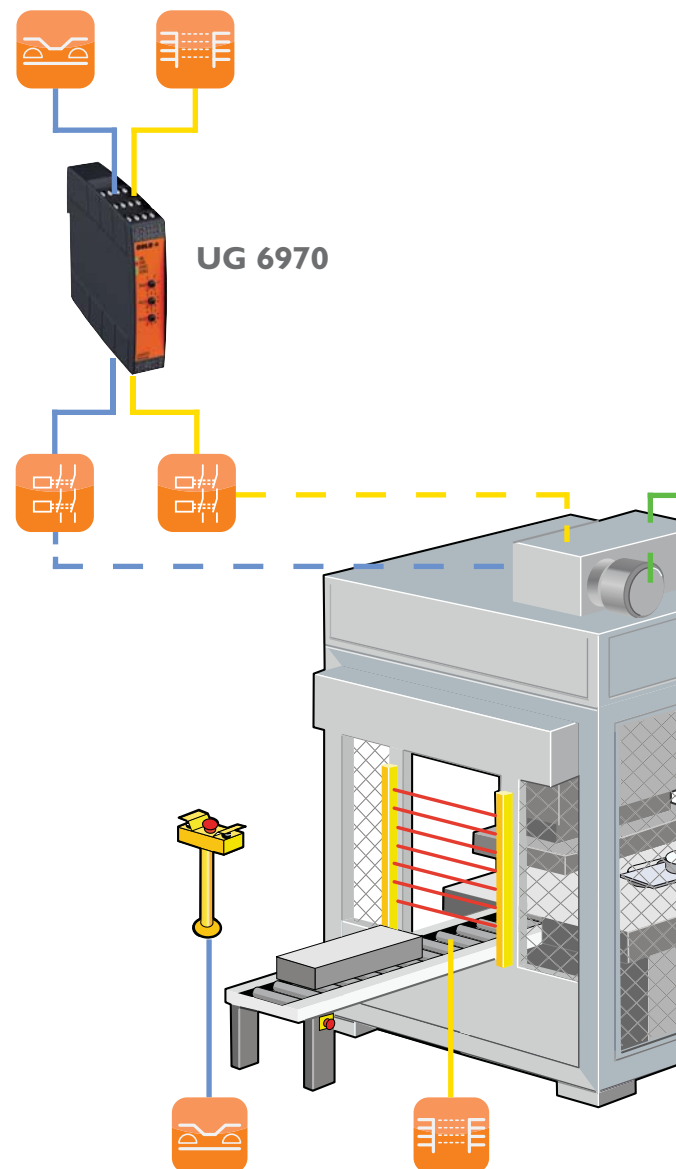
Simple assembly, safe wiring

Efficiency begins as early as during the installation process. Quickly installed on the DIN rail without tools and securely wired with removable contact blocks.
Its low width also saves space in the cabinet.

Certified Safety Standards

Functional
Safety
Type
Approved
TÜVRheinland ®
CERTIFIED
www.tuv.com
ID 0600000000

SAFEMASTER C devices are designed for the highest safety standards (PL e or SIL 3). The latest safety technology ensures reliable protection of people machine/ production facilities and the environment as well.

You can secure and monitor a complex system using only 2 devices!

An example with two UG 6970

This image depicts a packing system with a pick-and-place robot and a press. The press can be operated using two-hand controls and additionally secured using a light barrier. The feed conveyor and the robots automatically switch off upon entering the pressure-sensitive mat, the press continues to be active. The overriding emergency stop circuit switches off all release circuits in unison.
Your advantage at a glance: These safe, independent release circuits can be cancelled separately, the feedback circuits perform monitoring.

UG 6970

UG 6970

Multifunction safety module for 2 safety functions

▸ **2 safe release circuits**.

▸ **8 Safety Functions.**
One function per release circuit easily and quickly selectable with rotary switch. No programming required.

▸ **5 Modes of Operation**
for manually or automatically starting safety functions. Can be activated separately or together. Easily and quickly selectable with rotary switch.

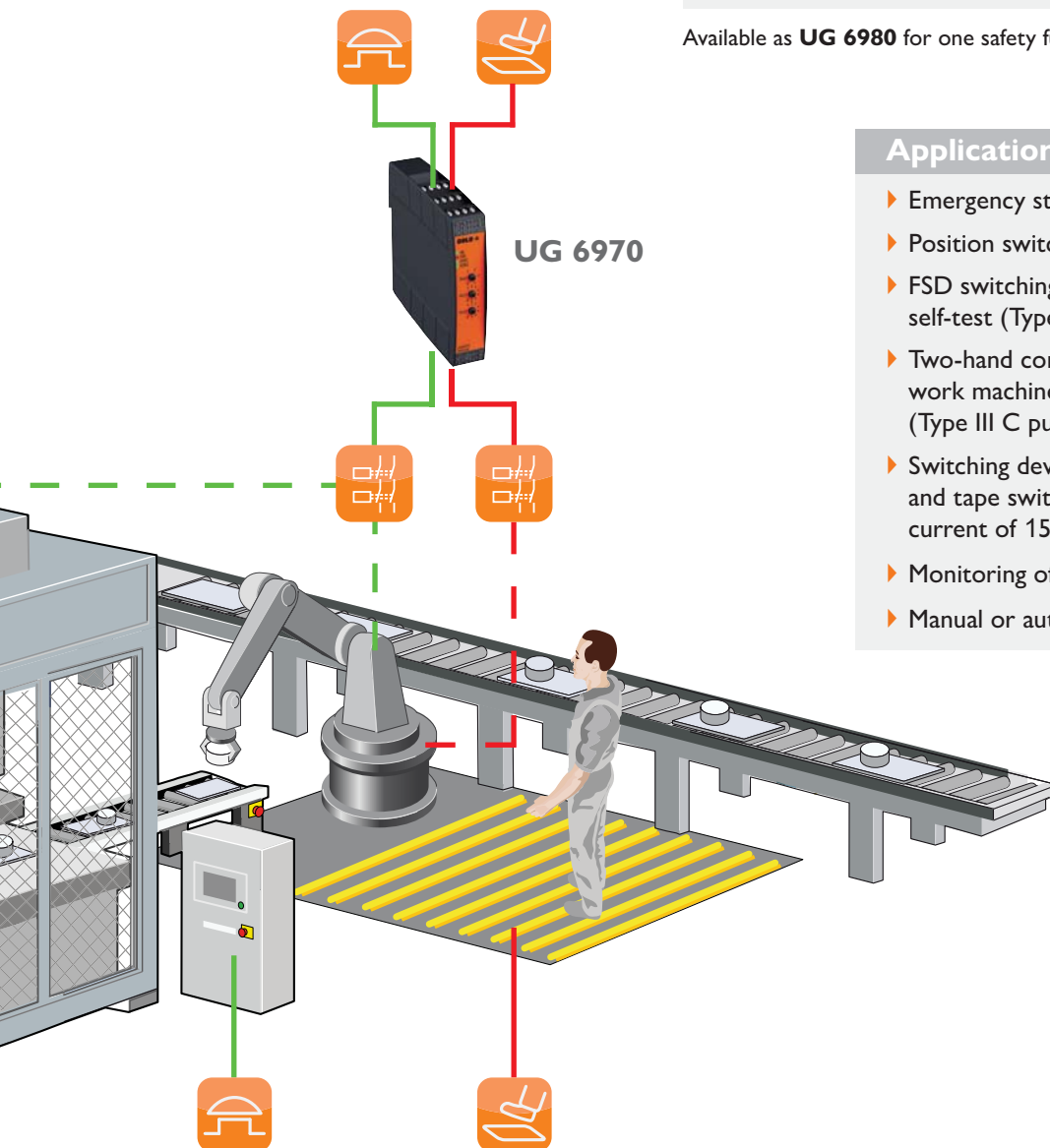▸ **Safe Extension Modules**
UG 6929 with a multitude of safety contacts.

Available as **UG 6980** for one safety function.

UG 6970 - Safety functions, 2 per device are selectable

Emergency stop *

Safety mat / Safety edge

Two-hand control

Light barrier

Safety gate *

Antivalent safety sensor

* Can be connected with both cross-fault protection and without cross-fault protection.

UG 6970 – 2 outputs each per device

Instant contact paths, 2-channel, forcibly guided / 1 semiconductor monitoring output

UG 6970

Applications

▸ Emergency stop module for machines.

▸ Position switch monitoring at safety gates.

▸ FSD switching devices for light barriers with self-test (Type 4 pursuant to IEC/EN 61496-1).

▸ Two-hand controls for controlling presses or work machines with dangerous closing motions (Type III C pursuant to EN 574).

▸ Switching device for safety mats, safety edges and tape switches with a maximum switching current of 15 mA.

▸ Monitoring of antivalent safety sensors.

▸ Manual or automatic starting.

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Protection via safety time functions and 1 safety function

Multifunctional safety module for 1 safety time function and 1 safety function

▸ **2 safe release circuits** with time-controlled and instantaneous contacts.

▸ **5 safety time functions for the time-controlled release circuit.** Easily selectable time function with rotary switch.

▸ **8 Time ranges (from 0.1 ... 300 s or from 0.1 ... 300 min).** A time range is easily selectable with the rotary switch.

▸ **Fine tuning in 10% increments.** Can be quickly and accurately configurable with the rotary switch.

▸ **Safe Extension Modules** UG 6929 with a multitude of safety contacts.

Available as a **UG 6961** with one safety function and without instantaneous contacts.
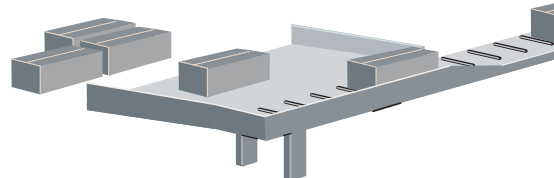
UG 6960 with one safety function per device type

Emergency stop *

Safety mat / Safety edge

Two-hand control

Light barrier

Safety gate *

Antivalent safety sensor

* Can be connected with both cross-fault protection and without cross-fault protection.

UG 6960 – 2 outputs per device

Instant contact paths, 2-channel, forcibly guided / 1 semiconductor monitoring output

Time-controlled contact paths, 2-channel, forcibly guided / 1 semiconductor monitoring output

Certified Safety Standards

Functional Safety Type Approved

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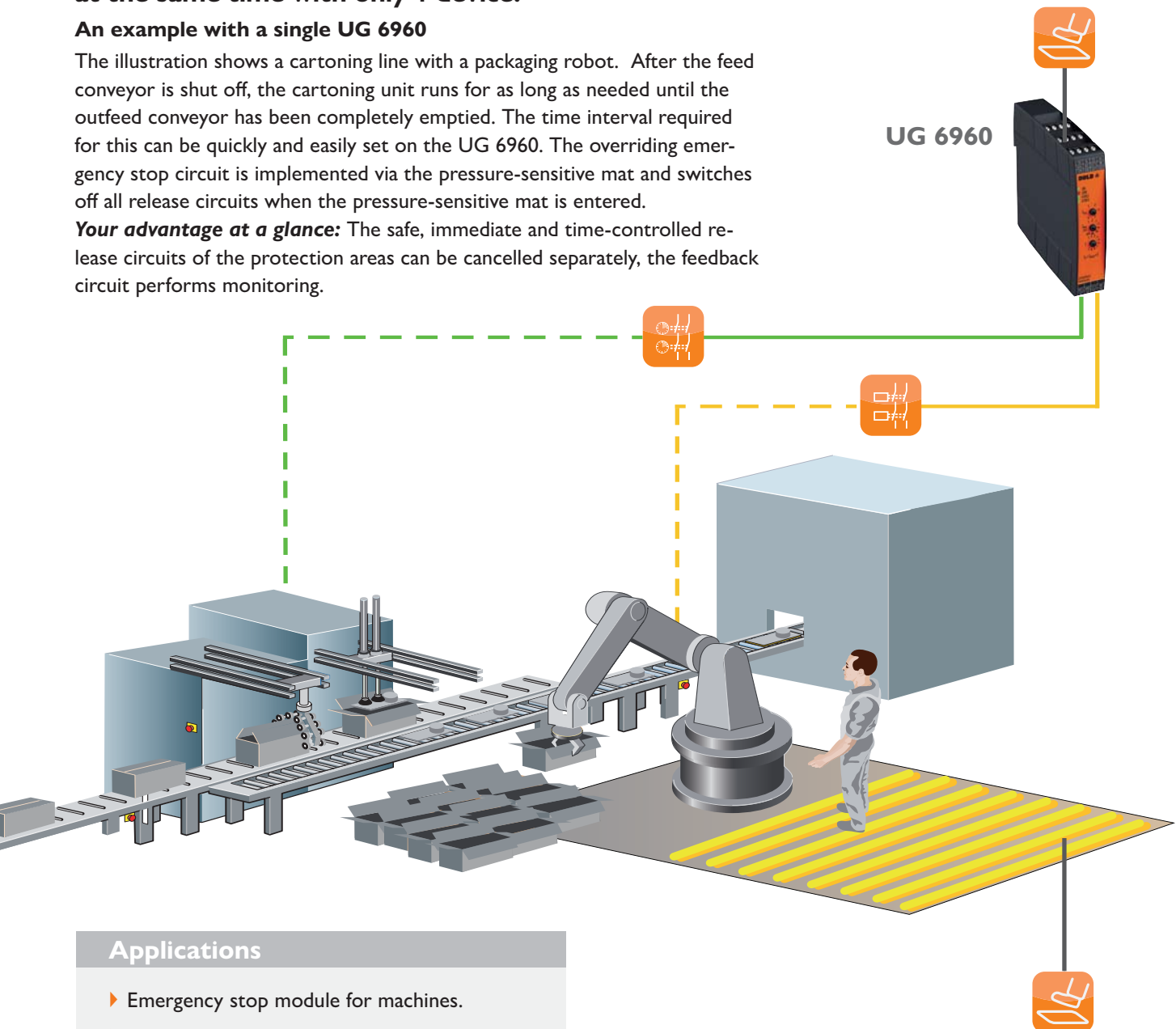
Safety time functions

▸ Release delay
▸ Re-triggerable release delay
▸ Response delay
▸ Passing make contact
▸ Passing break contact

Implement emergency stopping and time range control at the same time with only 1 device!

An example with a single UG 6960

The illustration shows a cartoning line with a packaging robot. After the feed conveyor is shut off, the cartoning unit runs for as long as needed until the outfeed conveyor has been completely emptied. The time interval required for this can be quickly and easily set on the UG 6960. The overriding emergency stop circuit is implemented via the pressure-sensitive mat and switches off all release circuits when the pressure-sensitive mat is entered.

Your advantage at a glance: The safe, immediate and time-controlled release circuits of the protection areas can be cancelled separately, the feedback circuit performs monitoring.

UG 6960

Applications
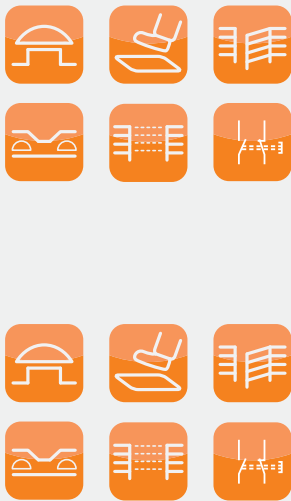
▸ Emergency stop module for machines.

▸ Position switch monitoring at safety gates.

▸ FSD switching devices for light barriers with self-test (Type 4 pursuant to IEC/EN 61496-1).

▸ Two-hand controls for controlling presses or work machines with dangerous closing motions (Type III C pursuant to EN 574).

▸ Switching device for safety mats, safety edges and tape switches with a maximum switching current of 15 mA.

UG 6970 and UG 6960
Safety modules

UG 6970

Minimum width

22,5 mm

Maximum amount of safety functions

Maximum variety of functions in a highly-compact design.

8 Safety Functions:
One safety function each selectable for function 1 and function 2. A setting with or without cross fault detection is available for the emergency stop and safety gate functions.
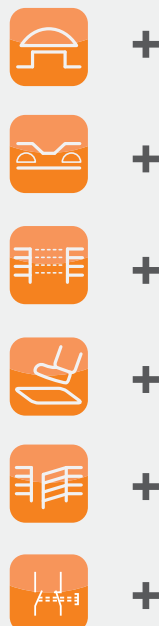
No need for elaborate programming work.

Safety time functions and 1 safety function in only one device.

Can be flexibly used for safe time monitoring of your system protection areas.

Safety thanks to cross fault detection for devices with emergency stop or safety gates. They can be used in a manner suitable for your application with and without cross fault detection.

UG 6960

Minimum width

22,5 mm

1 safety function + safety time functions
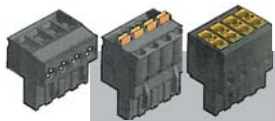

$t_v = t_{max} \times t$

UG 6960

UG 6970

LEDs and fault indicator

▸ Safe and quick diagnosis.
▸ Permanent fault detection self-test, not only when turning on and off.

Connection blocks and types of terminals

▸ Removable connection blocks, service-friendly.
▸ Quick, safe and tidy wiring.

Types of terminals, depending on device type:

▸ **PS (plug-in screw)** with screw terminals
▸ **PC (plug-in cage clamp)** with spring-loaded terminals
▸ **PT (plug-in TWIN cage clamp)** with spring-loaded terminals for 2 conductors

Reaching the goal with less variants

▸ Many different possible applications with few variants.
▸ Can be flexibly used thanks to a multitude of safety functions.
▸ Reduced warehousing.

Device type	Name	Performance Level (PL) pursuant to EN ISO 13849-1 / Safety Integrity Level (SIL) CL pursuant to EN 62061, IEC 61508, IEC 61511 and EN 574 / for furnaces pursuant to EN 50156-1	Integrated overvoltage and short-circuit protection	Line fault detection in the start button	Safe 2-channel design	Safe output contact, forcibly-guided	Outputs		
							Semiconductor monitoring output	Relays: NO contact instantaneous contact	Relays: NO contact time-controlled
UG 6970.04	Safety module	•	•	•	•	•	2 x 1	2 x 2	
UG 6980.02	Safety module	•	•	•	•	•	1	1 x 2	
UG 6980.04	Safety module	•	•	•	•	•	1	1 x 4	
UG 6960.04	Safety time module	•	•	•	•	•	2 x 1	1 x 2	1 x 2
UG 6961.02	Safety time module	•	•	•	•	•	1		1 x 2
UG 6961.04	Safety time module	•	•	•	•	•	1		1 x 4
UG 6929	Extension module	•	•		•	•	max. 7		

DOLD

Our Experience. Your Safety.

SAFEMASTER - Multifunctional Safety Solutions

Innovative Safety Concepts

DOLD is your solution provider for a multitude of automation tasks. Thanks to a comprehensive portfolio, DOLD offers flexible
solutions from a single source - one that has been globally and successfully active for many decades.

From mono-functional safety switching devices for simple safety
applications through to multifunctional, modular safety systems, DOLD develops tailor-made solutions for your industry and application.

We would be delighted to provide you with information about further safety solutions.

SAFEMASTER STS

The SAFEMASTER STS modular safety switch and key transfer system serves to monitor the moveable safety guards found on machines and installations. It combines the advantages of safety switches, guard locks, key transfer and command functions in a single system. SAFEMASTER STS is also suitable for the wireless safeguarding of applications in harsh and extreme environmental conditions.

SAFEMASTER S

The SAFEMASTER S series speed monitors provide increase in productivity and safety of the operating staff thanks to the combination of safe speed and standstill monitoring.

SAFEMASTER PRO

The modular and configurable SAFEMASTER PRO safety system monitors all safety circuits of your machinery and installations – in a simple, flexible and safe way. The number of inputs and outputs of the central control unit can be upgraded via extension modules at any time. Now also with safe speed monitoring.

SAFEMASTER W

SAFEMASTER W, the wireless companion for your safety. This allows you to wirelessly switch off any dangerous movements in just a fraction of a second. The Wireless Safety System thus ensures maximum freedom of movement for the operating and maintenance personnel.