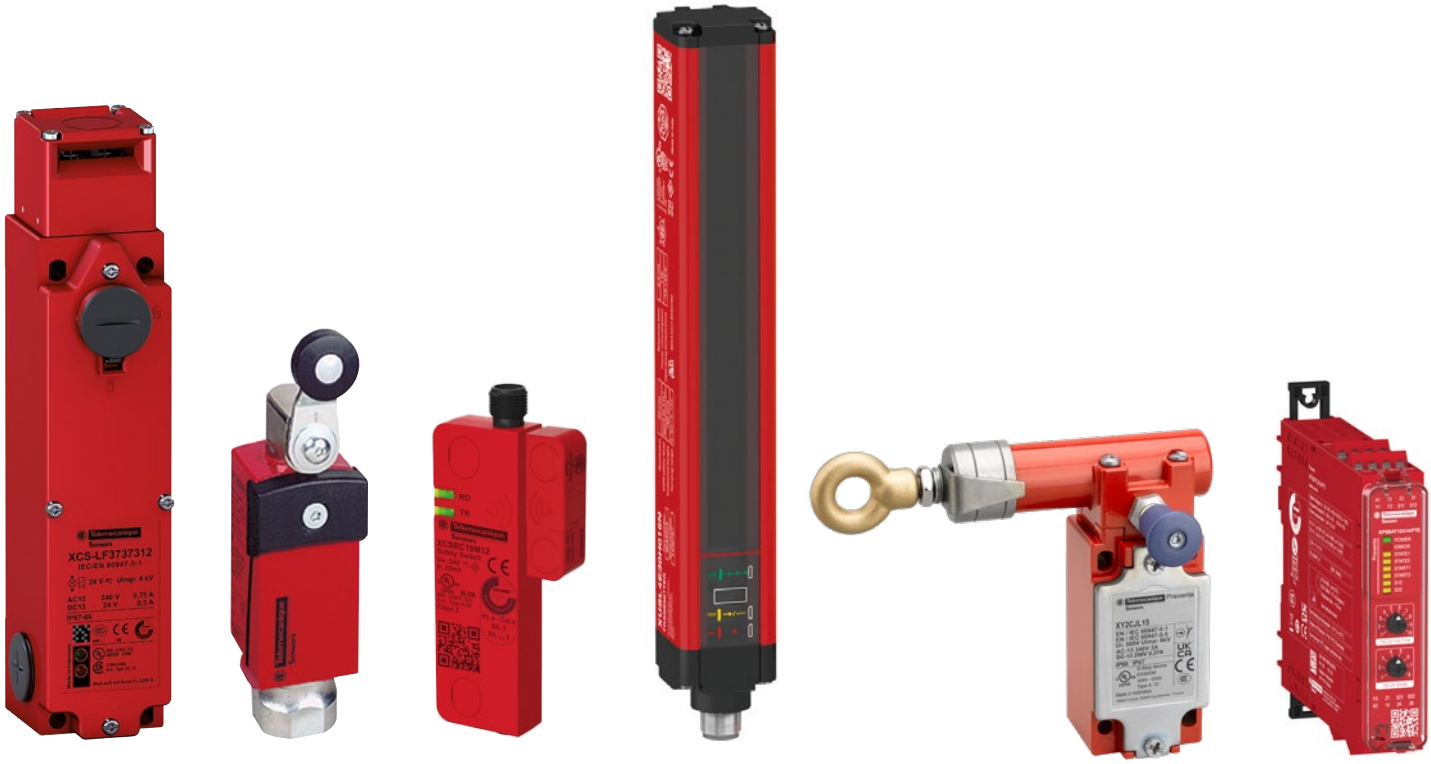
# Telemecanique Sensors
# Safety sensing

## Panorama




YAGEO GROUP Brings you | Telemecanique Sensors

# > Telemecanique Sensors

## Simply easy!

Simplicity

+

Expertise

+

Proximity

**Founded over 90 years ago, Telemecanique Sensors specializes in sensors and sensor-related technology.**

**Telemecanique Sensors** is a global player, present in more than 20 countries, with products distributed worldwide through a broad network of partners.
As a global leader in the sensors business, we help our customers select the right technology to get the best performance and reliability from their machines.
Each sensor type is engineered to address specific requirements across industrial applications, providing reliable and precise detection capabilities to ensure operational efficiency and safety:

**Inductive: Electronic technology**
Detects or measures objects placed within the magnetic field generated by the sensor and produce output signal.

**Photoelectric: Electronic technology**
Detects and measures objects or quantities by emitting a beam.
Alterations in the return signal enable to measure the object.

**Ultrasonic: Electronic technology**
Detects and measure objects regardless of shape, color or materials by emitting sound waves.

**Safety switches & sensors: Electromechanical & electronic technology**
Ensures industrial applications are safe to operate.
Wide product range, notably light curtains or interlock switches.

**RFID: Electronic technology**
Uses radio frequencies to localize and identify tagged items.
No line-of-sight required, multiple tags can be read simultaneously.

**Limit Switch: Electromechanical technology**
Automatically detects or senses the presence of an object.
Determines the passing, positioning and end of travel of an object.
We consider the protection of the environment as a key element of our strategy. We exceed environmental regulations and more than 95% of our products are RoHS compliant and free from REACH related substances of very high concern.
Our facilities are also all compliant with ISO 14 001 global standard.

**Our worldwide network**
The Telemecanique Sensors is in charge of product development from R&D to production and benefits from a worldwide network of specialist and generalist distributors.
Focused on 3 core values – ***Simplicity***, ***Proximity*** and ***Expertise*** – we have become experts in factory automation sensors as well as specialists in demanding applications, making our customers' lives «simply easy!".

Since 2023, Telemecanique Sensors is part of **YAGEO Group** leading enterprise for electronic components with capabilities on a global scale, including production and sales facilities in Asia, Europe, and the Americas.

# Telemecanique Sensors safety sensing

## …because just **ONE** workplace accident is too many…

**For over 90 years, Telemecanique Sensors has developed quality sensor products to help engineers ensure their machines are safe to operate and meet all the industry's applicable safety standards.**

**Whether you need to secure a hazardous area, automate hazardous machinery shutdown when a specific area is entered, or provide workers with a readily available means to shut down hazardous machinery, Telemecanique Sensors has you covered with a variety of machine safety solutions.**

## Lock it. [Pages 4 - 8]

Telemecanique Sensors XCSLE and XCSLF solenoid locking safety interlock switches are designed to help protect personnel in hazardous machines applications where doors and guards must remain closed until the conditions behind the door or guard are no longer hazardous. The XCSLF switch will resist up to an industry leading 675 pounds (Fmax=3,000 Newtons) to keep the doors and guards in place. We also have a selection of safety switches for light machines without inertia with hinged doors, covers or protective guards; industrial and light machines without inertia for monitoring access guards, and safety magnetic switches.

## Restrict access to it when it's running. [Pages 9 - 10]

ECOLAB

For hazardous machine environments utilizing doors or guards to separate workers from hazardous machinery, the XCSR RFID safety sensor provides a TÜV certified safety solution that comes with a Cat4/PL e - SIL3 rating. Easy to install and virtually tamper-proof, this contactless RFID safety sensor shuts down potentially hazardous machinery as soon as the door or designated guard to the machine area begins to open. This reliable solution comes in standalone, series, and single models.

Telemecanique Sensors' XUSL light curtains are designed to help protect persons operating or working in the vicinity of hazardous machinery by stopping the machine as soon as one of the light beams is broken. XUSL light curtains are built for rugged manufacturing environments, withstanding temperatures from -30° C to 55° C and carrying an IP67 rating (IP69K special models with ECOLAB conformity are available for XUSL4E and XUSL2E). Telemecanique Sensors new XUSL4M Light Curtains with integrated muting provide efficient detection of machine operators with uninterrupted automation processes.

## Provide an easy way to shut it down. [Page 11]

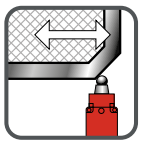
The XY2CJ Emergency Stop Cable Pull Switch provides workers an emergency stop function of hazardous machinery with a single, quick pull. It replaces a number of emergency stop buttons over 100 feet / 30 meters. The XY2CJ Cable Pull Switch from Telemecanique Sensors is certified by UL-NiSD, allowing it to function as an emergency stop. For longer applications (up to 656 feet / 200 meters wide), the XY2CED Double-Sided Cable Pull Switch provides a UL-NiSD certified safety solution.

## Monitor it and shut it down. [Page 12]

The Preventa XPS safety modules monitor status of machines and shut down machines when receiving input from safety switches and sensors. Up to 9 functions including Electronic and Eletromechanical inputs are embedded in one module to cover your flexible safety need. Removable terminals make your installation and maintenance more efficient.

The following pages detail the above safety detection solutions and more!

# Safety interlocking switches



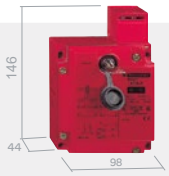
**Choose :** 1 Body > 2 Function > 3 Contact > 4 Connection > Reference

## For industrial machines with inertia for monitoring access guards

**XCSLF Metal**


| Function | Voltage | Safety contacts (2) | NC+NO Slow | 2NC Slow | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|---|---|---|
| | | Solenoid contacts | NC+NO Slow | 2NC Slow | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
| Locking on de-energisation of solenoid (1) | 24V AC/DC (3) | ISO M20 | XCSLF2525312 | XCSLF2727312 | XCSLF3535312 | XCSLF3737312 | XCSLF3838312 |
| | | 1/2"NPT | | XCSLF2727313 | XCSLF3535313 | XCSLF3737313 | XCSLF3838313 |
| | | M23 connector | | | XCSLF353531M3 | XCSLF373731M3 | XCSLF383831M3 |
| Locking on de-energisation of solenoid with emergency by mushroom head pushbutton (1) | 24V AC/DC (3) | ISO M20 | | | XCSLF3535412 | XCSLF3737412 | |
| | | 1/2"NPT | | | | XCSLF3737413 | |
| | | M23 connector | | | XCSLF353541M3 | XCSLF373741M3 | |

**XCSE Metal**




| Function | Voltage | Safety contacts (2) | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|---|
| | | Solenoid contacts | NC+NO Slow | NC+NO Slow | NC+NO Slow |
| Locking on de-energisation of solenoid (1) | 24V AC/DC (3) | ISO M20 | XCSE5312 | XCSE7312 | XCSE8312 |
| | | Pg13.5 | XCSE5311 | XCSE7311 | XCSE8311 |
| | | 1/2"NPT | XCSE5313 | XCSE7313 | XCSE8313 |

(1) To choose the type of key actuator, please refer to Accessories
(2) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.
(3) Some models with 120V AC/DC or 230V AC/DC are available.

## For industrial machines without inertia for monitoring access guards

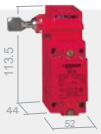
**XCSA Metal**


| Function | Safety contacts (2) | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|
| Without looking of the actuator (1) | ISO M20 | XCSA502 | XCSA702 | XCSA802 |
| | Pg13.5 | XCSA501 | XCSA701 | XCSA801 |
| | 1/2"NPT | XCSA503 | XCSA703 | XCSA803 |

**XCSB Metal**


| Function | Safety contacts (2) | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|
| Manual unlocking by button (1) | M20 | XCSB502 | XCSB702 | XCSB802 |
| | Pg13.5 | XCSB501 | XCSB701 | XCSB801 |
| | 1/2"NPT | XCSB503 | XCSB703 | XCSB803 |

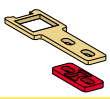
**XCSC Metal**

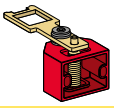


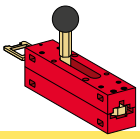

| Function | Safety contacts (2) | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|
| Manual unlocking by key lock (1) | M20 | XCSC502 | XCSC702 | XCSC802 |
| | Pg13.5 | XCSC501 | XCSC701 | XCSC801 |
| | 1/2"NPT | XCSC503 | XCSC703 | XCSC803 |

(1) To choose the type of key actuator, please refer to Accessories
(2) Schematic diagrams shown at the bottom of this page represent the contact states while the actuator is inserted in the head of the switch.

## Accessories for safety interlocking switches



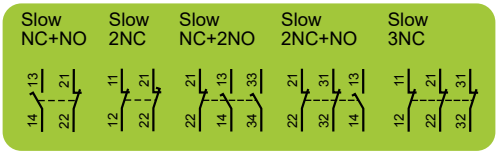


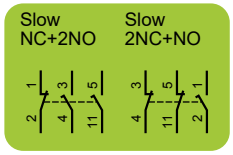


| Key actuator | Straight key actuator | Key actuator with wide fixing | Pivoting key actuator | Key actuator with latch for sliding doors |
|---|---|---|---|---|
| XCSLF, XCSE, XCSA, XCSB & XCSC | XCSZ01 | XCSZ02 | XCSZ03 | XCSZ05 |

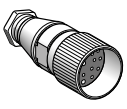
**Connection information**

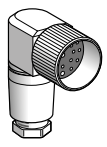
**ISO M20** Tapped M20x1.5 for ISO cable gland
**Pg13.5** Tapped for a N°13 cable gland
**1/2" NPT** Tapped for a 1/2" NPT




**M23 to XCSLF***M3 products** Connector M23, 19 pin

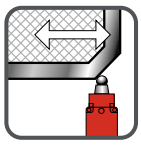




**Cabling XCS**

| | Connectors (female) | |
|---|---|---|
| M23 | straight | elbowed |
| 19 pin | XZCC23FDM190S | XZCC23FCM190S |

# Safety interlocking switches



**Choose :** 1 Body > 2 Function > 3 Contact > 4 Connection > Reference

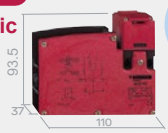
## For light machines with inertia

**XCSLE Plastic**


Locking on de-energisation of solenoid (1) — 24V AC/DC (3)

| Safety contacts (2) | NC+NO Slow | 2NC Slow | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|---|
| Solenoid contacts | NC+NO Slow | 2NC Slow | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
| ISO M20 | XCSLE2525312 | XCSLE2727312 | XCSLE3535312 | XCSLE3737312 | XCSLE3838312 |
| 1/2"NPT | | XCSLE2727313 | | | |
| M23 connector | | | XCSLE353531M3 | XCSLE373731M3 | |

**XCSTE Plastic**




Locking on de-energisation of solenoid (1) — 24V AC/DC (3)

| Safety contacts (2) | NC+NO Slow | 2NC Slow |
|---|---|---|
| Solenoid contacts | NC+NO Slow | 2NC Slow |
| ISO M16 | XCSTE5312 | XCSTE7312 |
| Pg11 | XCSTE5311 | XCSTE7311 |
| 1/2"NPT | XCSTE5313 | XCSTE7313 |

(1) To choose the type of key actuator, please refer to Accessories
(2) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.
(3) Some models with 120V AC/DC or 230V AC/DC are available.

## For light machines without inertia

**XCSPA Plastic**


Without looking of the actuator (1)

| Safety contacts (2) | NC+NO Slow | 2NC Slow | NC+2NO Slow | 2NC+NO Slow |
|---|---|---|---|---|
| ISO M16 | XCSPA592 | XCSPA792 | XCSPA892 | XCSPA992 |
| Pg11 | XCSPA591 | XCSPA791 | XCSPA891 | XCSPA991 |
| 1/2"NPT | XCSPA593 | XCSPA793 | XCSPA893 | XCSPA993 |

**XCSTA Plastic**


Without looking of the actuator (1)

| Safety contacts (2) | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|
| ISO M16 | XCSTA592 | XCSTA792 | XCSTA892 |
| Pg11 | XCSTA591 | XCSTA791 | XCSTA891 |
| 1/2"NPT | XCSTA593 | XCSTA793 | XCSTA893 |

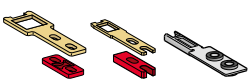
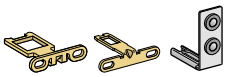
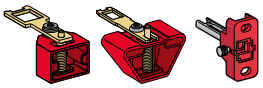
**XCSM Plastic**


Without looking of the actuator (1)

| Safety contacts (2) | NC+NO Slow | 2NC Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|
| Cable 2 m | XCSMP59L2 | XCSMP79L2 | XCSMP70L2 | XCSMP80L2 |
| Cable 5 m | XCSMP59L5 | XCSMP79L5 | XCSMP70L5 | XCSMP80L5 |
| Cable 10 m | | | XCSMP70L10 | XCSMP80L10 |

(1) To choose the type of key actuator, please refer to Accessories
(2) Schematic diagrams shown represent the contact states whilst the actuator is inserted in the head of the switch.

## Accessories for safety interlocking switches

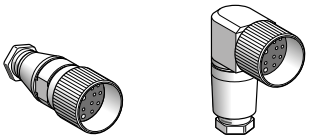
| Key actuator | Straight key actuator | Key actuator with wide fixing | Pivoting key actuator |
|---|---|---|---|
| XCSLE | XCSZ01 | XCSZ02 | XCSZ03 |
| XCSTE, XCSPA, XCSTA | XCSZ11 | XCSZ12 | XCSZ13 |
| XCSMP | XCSZ81 | XCSZ84 | XCSZ83 (1) |

(1) The key actuator XCSZ83 can be used just for right-hand doors. To ordered for left-hand doors, the reference will be XCSZ85.

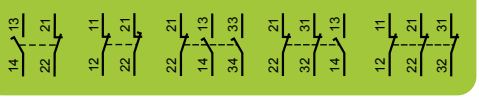
**Connection information**

- **ISO M16** Tapped M16x1.5 for ISO cable gland
- **ISO M20** Tapped M20x1.5 for ISO cable gland
- **Pg11** Tapped for a N°11 cable gland
- **Pg13.5** Tapped for a N°13 cable gland
- **1/2" NPT** Tapped for a 1/2" NPT

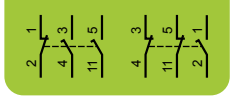
**M23 to XCSLE***M3 products** Connector M23, 19 pin



Slow NC+NO | Slow 2NC | Slow NC+2NO | Slow 2NC+NO | Slow 3NC



Slow NC+2NO | Slow 2NC+NO



**Cabling XCS**

| | Connectors (female) | |
|---|---|---|
| M23 | straight | elbowed |
| 19 pin | XZCC23FDM190S | XZCC23FCM190S |

# Safety switches with rotary level

**Choose :** 1 Body > 2 Function > 3 Contact > 4 Connection > Reference

## For light machines without inertia with hinged doors, covers or protective guards

**XCSPL Plastic**


| | Safety contacts (1) | Elbowed lever, operator to left | Elbowed lever, operator to centre | Elbowed lever, operator to right | Straight lever, operator to right OR to left (2) | Straight lever, operator to centre |
|---|---|---|---|---|---|---|
| ISO M16 | NC+NO slow | XCSPL592 | XCSPL582 | XCSPL572 | XCSPL562 | XCSPL552 |
| | 2NC slow | XCSPL792 | XCSPL782 | XCSPL772 | XCSPL762 | XCSPL752 |
| | NC+2NO slow | | | | XCSPL862 | |
| | 2NC+NO slow | | | | XCSPL962 | |
| Pg11 | NC+NO slow | XCSPL591 | XCSPL581 | XCSPL571 | XCSPL561 | XCSPL551 |
| | 2NC slow | XCSPL791 | XCSPL781 | XCSPL771 | XCSPL761 | XCSPL751 |
| | 2NC+NO slow | | XCSPL981 | | | |
| 1/2"NPT | NC+NO slow | XCSPL593 | XCSPL583 | XCSPL573 | XCSPL563 | XCSPL553 |
| | 2NC slow | XCSPL793 | XCSPL783 | XCSPL773 | XCSPL763 | XCSPL753 |

(1) Schematic diagrams shown represent the contact states whilst the lever is in the rest position.
(2) To change the operator from right to left, rotate the turret head by 180°.

**XCSPR Plastic**


| | Safety contacts (1) | NC+NO Slow | 2NC Slow | NC+2NO Slow | 2NC+NO Slow |
|---|---|---|---|---|---|
| Spindle length 30 mm (2) | ISO M16 | XCSPR552 | XCSPR752 | | XCSPR952 |
| | Pg11 | XCSPR551 | XCSPR751 | XCSPR851 | XCSPR951 |
| | 1/2"NPT | XCSPR553 | XCSPR753 | | |

(1) Schematic diagrams shown represent the contact states whilst the spindle is the rest position.
(2) For switches with 80 mm spindle, replace the 2nd number in the reference by 6. Ex: XCSPR562.

**XCSTR Plastic**


| | Safety contacts (1) | NC+2NO Slow | 2NC+NO Slow | 3NC Slow |
|---|---|---|---|---|
| Spindle length 30 mm (2) | ISO M16 | XCSTR552 | XCSTR752 | XCSTR852 |
| | Pg11 | XCSTR551 | XCSTR751 | XCSTR851 |
| | 1/2"NPT (3) | XCSTR553 | XCSTR753 | XCSTR853 |

(1) Schematic diagrams shown represent the contact states whilst the spindle is the rest position.
(2) For switches with 80 mm spindle, replace the 2nd number in the reference by 6. Ex: XCSTR562
(3) Supply with one metal adaptator DE9RA1012 (Pg11 1/2"NPT) and one blanking plug. For a second 1/2"NPT conduit entry please order a second adaptator.

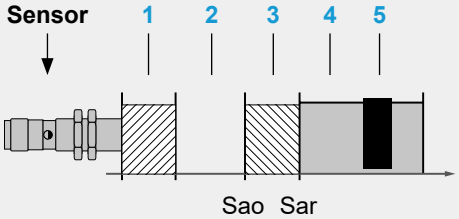
| Connection information | |
|---|---|
| ISO M16 | Tapped M16x1.5 for ISO cable gland |
| Pg11 | Tapped for a N°11 cable gland |
| 1/2" NPT | Tapped for a 1/2" NPT |

| Slow NC+NO | Slow 2NC | Slow NC+2NO | Slow / Snap 2NC+NO | Slow 3NC |
|---|---|---|---|---|
| 13 21 / 14 22 | 11 21 / 12 22 | 21 13 33 / 22 14 34 | 21 31 13 / 22 32 14 | 11 21 31 / 12 22 32 |

# Fail Safe Inductive sensors, SIL2, Pl d, Category 2

**Choose :** Body size 1 / Sensing distance 1 > 2 Output type > 3 Connection > 4 Output function > Reference

## Technical explanations




1 Forbidden zone
2 Enable zone
3 Transition zone
4 Disable zone
5 Standard metal target plate

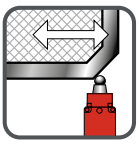
**Forbidden zone (1)**
This zone ensures that it will not be possible to defeat the solution with simple elements or standard tools (ie: glue a coin on the front face). It is a minimum distance maintaining safe condition in all aspects. In this zone, both sensor outputs are opened.

**Assured operating distance (Sao)**
When the target approches the sensor, the contacts will change state no later than Sao max and remain in the same state as the target continues to approach the switch. At distances beyound the Sao min, the contacts enter in the forbidden zone, not maintaining a closed condition in all aspects.

**Assured release distance (Sar)**
Minimum distance from the sensor that the target must move to assure the reset of the sensor.

**Standard metal target plate (5)**
According to IEC 947-5-2 at an ambient temperature of 20°C.

# Safety limit switches



**Choose :** 1 Body > 2 Function > 3 contact > 4 Connection > **Reference**

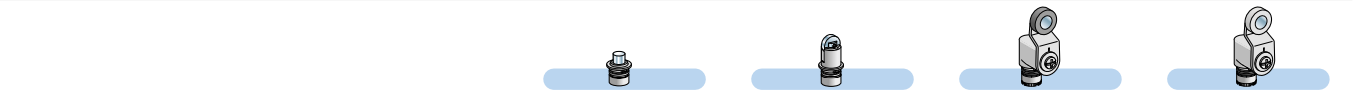
## For industrial and Light machines without inertia for monitoring access guards

**XCSD Metal**


| Safety contacts (3) | Type of operator | Metal end plunger | Steel roller plunger | Thermoplastic roller lever | Steel roller lever |
|---|---|---|---|---|---|
| 2NC+NO Snap | ISO M20 | XCSD3910P20 | XCSD3902P20 | XCSD3918P20 | XCSD3919P20 |
| | Pg13.5 | XCSD3910G13 | XCSD3902G13 | XCSD3918G13 | XCSD3919G13 |
| | 1/2" NPT | XCSD3910N12 | XCSD3902N12 | XCSD3918N12 | XCSD3919N12 |
| 2NC+NO Slow | ISO M20 | XCSD3710P20 | XCSD3702P20 | XCSD3718P20 | XCSD3719P20 |
| | Pg13.5 | XCSD3710G13 | XCSD3702G13 | XCSD3718G13 | XCSD3719G13 |
| | 1/2" NPT | XCSD3710N12 | XCSD3702N12 | XCSD3718N12 | XCSD3719N12 |

**XCSP Plastic**


| Safety contacts (3) | Type of operator | Metal end plunger | Steel roller plunger | Thermoplastic roller lever | Steel roller lever |
|---|---|---|---|---|---|
| 2NC+NO Snap | ISO M20 | XCSP3910P20 | XCSP3902P20 | XCSP3918P20 | XCSP3919P20 |
| | Pg13.5 | XCSP3910G13 | XCSP3902G13 | XCSP3918G13 | XCSP3919G13 |
| | 1/2" NPT | XCSP3910N12 | XCSP3902N12 | XCSP3918N12 | XCSP3919N12 |



**XCSM Metal**


| Safety contacts (3) | Type of operator | Metal end plunger | Steel roller plunger | Thermoplastic roller lever | Steel roller lever |
|---|---|---|---|---|---|
| 2NC+NO Slow | Cable 1m | XCSM3710L1 | XCSM3702L1 | XCSM3715L1 | XCSM3716L1 |
| | Cable 2m | XCSM3710L2 | XCSM3702L2 | XCSM3715L2 | XCSM3716L2 |
| | Cable 5m | XCSM3710L5 | XCSM3702L5 | XCSM3715L5 | XCSM3716L5 |
| 2NC+2NO Snap | Cable 1m | XCSM4110L1 | XCSM4102L1 | XCSM4115L1 | XCSM4116L1 |
| | Cable 2m | XCSM4110L2 | XCSM4102L2 | XCSM4115L2 | XCSM4116L2 |
| | Cable 5m | XCSM4110L5 | XCSM4102L5 | XCSM4115L5 | XCSM4116L5 |

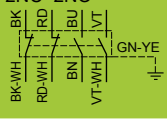
(1) Schematic diagrams shown represent the contact states whilst the actuator is the rest position.

**Connection information**

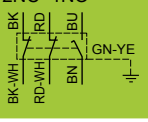
| | |
|---|---|
| ISO M20 | Tapped M20x1.5 for ISO cable gland |
| Pg13.5 | Tapped for a N°13 cable gland |
| 1/2" NPT | Tapped for a 1/2" NPT |

**Cable XCSM**

Snap 2NC+2NO

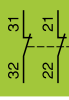



Slow 2NC+1NO

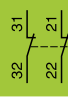



**Terminals XCSD/P**

Snap 2NC+1NO

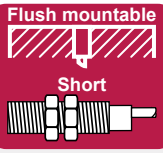



Slow 2NC+1NO




**NEW**

**Flush mountable**

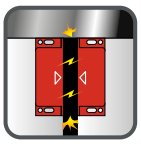



| | | | Sensing distance | M12 | | M18 | | M30 | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2 mm | 4 mm | 5 mm | 8 mm | 10 mm | 15 mm |
| DC4 | PNP | cable | | XS512BSPDL2 | XS112B3PDL2 | XS518BSPDL2 | XS518B3PDL2 | XS530BSPDL2 | XS130B3PDL2 |
| | | connector | | XS512BSPDM12 | XS112B3PDM12 | XS518BSPDM12 | XS518B3PDM12 | XS530BSPDM12 | XS130B3PDM12 |


**Cubic**

| | | | Flush mountable | Non flush mountable |
|---|---|---|---|---|
| | | | 20 mm | 40 mm |
| 40x40x40 | DC4 | PNP NO+NC | XS8C2A1PCM12 | XS8C2A4PCM12 |
| 40x40x117 | DC4 | PNP NO+NC | XS8C4A1PCP20 | XS8C4A4PCP20 |

# Contactless safety coded magnetic switches



**Choose :** 1 Body > 2 Operating zone > 3 contact or safety level > 4 Connection > Reference ECOLAB

## For industrial machines without inertia with imprecise guidance and frequent washing

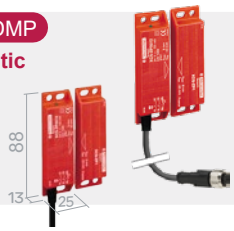
**XCSDMR Plastic**


| | | Coded magnetic switches | |
|---|---|---|---|
| | | Operating zone (1) Sao: 8 mm / Sar: 20 mm | |
| | Safety contacts (2) | NC + NO | 2NC |
| Without LED | Cable 2 m (3) | XCSDMR5902 | XCSDMR7902 |
| | M12 4P | XCSDMR590L01M12 | XCSDMR790L01M12 |
| With LED | Cable 2 m (3) | XCSDMR5912 | XCSDMR7912 |
| | M12 4P | XCSDMR591L01M12 | XCSDMR791L01M12 |

**XCSDMC Plastic**


| | | Operating zone (1) Sao: 5 mm / Sar: 15 mm | |
|---|---|---|---|
| | Safety contacts (2) | NC + NO | 2NC |
| Without LED | Cable 2 m (3) | XCSDMC5902 | XCSDMC7902 |
| | M8 4P | XCSDMC590L01M8 | XCSDMC790L01M8 |
| With LED | Cable 2 m (3) | XCSDMC5912 | XCSDMC7912 |
| | M8 4P | XCSDMC591L01M8 | XCSDMC791L01M8 |

**XCSDMP Plastic**




| | | Operating zone (1) Sao: 8 mm / Sar: 20 mm | | | |
|---|---|---|---|---|---|
| | Safety contacts (2) | NC + NO | 2NC | NC + 2NO | 2NC + NO |
| Without LED | Cable 2 m (3) | XCSDMP5902 | XCSDMP7902 | XCSDMP5002 | XCSDMP7002 |
| | M12 4P or 8P (4) | XCSDMP590L01M12 | XCSDMP790L01M12 | XCSDMP500L01M12 | XCSDMP700L01M12 |
| With LED | Cable 2 m (3) | XCSDMP5912 | | XCSDMP5012 | XCSDMP7012 |
| | M12 4P or 8P (4) | XCSDMP591L01M12 | XCSDMP791L01M12 | XCSDMP501L01M12 | XCSDMP701L01M12 |

(1) Sao: Assured operating distance; Sar: Assured tripping distance

(2) Schematic diagrams shown represent the contact states whilst the magnet is in front of the switch.

(3) For switches with other cable lengths, replace the last number in the reference by 5 for 5 meters or 10 by 10 meters. Ex: **XCSDMC5905**

(4) M12 4P for XCSDMP59/79 (2 contacts), M12 8P for XCSDMP50/70 (3 contacts)

## Accessories for Safety magnetic switches

| Pre-wired female connectors | | M8 4 pin | M12 8 pin | M12 4 pin | M12 8 pin (A coding) |
|---|---|---|---|---|---|
| Straight | 2 m | XZCP0941L2 | XZCP29P11L2 | XZCP1141L2 | XZCP29P12L2 |
| | 5 m | XZCP0941L5 | XZCP29P11L5 | XZCP1141L5 | XZCP29P12L5 |
| | 10 m | XZCP0941L10 | XZCP29P11L10 | XZCP1141L10 | XZCP29P12L10 |

# RFID contactless safety switches

**Choose :** 1 Product Type > 2 Pairing mode > 3 XCSRM: connection XCSRC: EDM type > Reference

ECOLAB

## For industrial machines without inertia with imprecise guidance in high coded level

| XCSRM: Miniature | | Maximum Safety Level | PL=e, category4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508 | |
|---|---|---|---|---|
| | Pairing mode | Connection | Single<br>Point to point connection | Advance (5)<br>EDM(4) + Series connection |
| NEW | Unique pairing | 2m cable | XCSRM10L02 | |
| | | 5m cable | XCSRM10L05 | |
| | | 10m cable | XCSRM10L10 | |
| | | M12 connector | XCSRM10M12 | XCSRM13M12 |
| | | 100mm cable + M12 connector | XCSRM10L01M12 | XCSRM13L01M12 |
| | 3 times pairing (1)(2) | 2m cable | XCSRM30L02 | |
| | | 5m cable | XCSRM30L05 | |
| | | 10m cable | XCSRM30L10 | XCSRMU3M12 |
| | | M12 connector | XCSRM30M12 | XCSRMU3L01M12 |
| | | 100mm cable + M12 connector | XCSRM30L01M12 | |
| | Generic pairing (3) | 2m cable | XCSRML0L02 | |
| | | 5m cable | XCSRML0L05 | |
| | | 10m cable | XCSRML0L10 | |
| | | M12 connector | XCSRML0M12 | XCSRML3M12 |
| | | 100mm cable + M12 connector | XCSRML0L01M12 | XCSRML3L01M12 |

All references are sold with both switch and actuator in same package.
(1) 3 times pairing available for both single and Advance version, with blank actuator XCSRK1BU, by follow automatic pairing procedure
(2) If more than 3 times required, please purchase Advance version to have unlimited times thru wire pairing procedure according to user manual
(3) Generic pairing does not require pairing procedure, with blank actuator XCSRK1BL, which is classified as low coded according to ISO 14119.
(4) Both Automatic and Manual restart are embedded.
(5) Advance = Standalone + Daisy-chain

| XCSRC: Compact | Maximum Safety Level | PL=e, category4 conforming to EN/ISO 13849-1 and SIL 3 conforming to EN/IEC 61508 | | |
|---|---|---|---|---|
| | Single<br>Point to point connection | Daisy-chain<br>Serires connection (2) (3) | Standalone | |
| Pairing mode | | | EDM with Automatic restart | EDM with Manual restart |
| Unique pairing | XCSRC10M12 | XCSRC12M12 | XCSRC11AM12 | XCSRC11MM12 |
| 3 times pairing (1) | XCSRC30M12 | XCSRC32M12 | XCSRC31AM12 | XCSRC31MM12 |

All references are sold with both switch and actuator in same package.
(1) This version allows a new pairing of a blank transponder XCSRK2A3 (1 plant pairing by default + maximum 2 new pairings). As soon as a blank transponder has been paired, the former transponder is no longer valid. A blank transponder can be matched only once.
(2) The use of the serial diagnosis unit XCSRD210MDB is optional but highly recommended. This diagnosis unit provides and localizes the state of every XCSR sensors of the chain (open/close safe guard status, presence of errors, cabling issue, ...).
(3) The first sensor of serial connexion must be coupled with the loopback chain adaptator XCSRZE.
(4) Both Automatic and Manual restart are embedded.

## RFID contactless safety switch accessories

| Type | | Connection M12 - Pre-wired - for XCSR «Single» or «Daisy Chain» or «Advance» (1)<br>Miniature: XCSRM*M12 - Compact: XCSRC*0M12 / XCSRC*2M12 (1) | | | |
|---|---|---|---|---|---|
| Pre-wired length (cable material: PUR) | | 2 m | 5 m | 10 m | 20 m |
| Connector M12 / 5-pin Female | Straight - Pre-wired | XZCP11V12L2 | XZCP11V12L5 | XZCP11V12L10 | XZCP11V12L20 |
| | 90° - Pre-wired | XZCP12V12L2 | XZCP12V12L5 | XZCP12V12L10 | XZCP12V12L20 |

| Type | | Connection M12 - Pre-wired - for XCSR «Standalone» or «Advance»<br>Miniature: XCSRM*3M12/L01M12 - Compact: XCSRC*1*M12 | | | |
|---|---|---|---|---|---|
| Pre-wired length (cable material: PUR) | | 2 m | 5 m | 10 m | 20 m |
| Connector M12 / 8-pin Female | Straight - Pre-wired | XZCP29P12L2 | XZCP29P12L5 | XZCP29P12L10 | XZCP29P12L20 |
| | 90° - Pre-wired | XZCP53P12L2 | XZCP53P12L5 | XZCP53P12L10 | XZCP53P12L20 |

| Type | | Connection 2xM12 - Jumpers for XCSRC «Daisy Chain»<br>Compact: XCSRC*2M12, between two switches | | | | |
|---|---|---|---|---|---|---|
| Pre-wired length (cable material: PUR) | | 0,3 m | 3 m | 5 m | 10 m | 25 m |
| 2 Connectors Straight Female - M12 / 5 pins | Pre-cabled for serial link directly between the sensors | XZCR1111064D03 | XZCR1111064D3 | XZCR1111064D5 | XZCR1111064D10 | XZCR1111064D25 |

| Type | | Connection 2xM12 - Jumpers for XCSRM «Advance»<br>Miniature: XCSRM*3M12/L01M12 | | | |
|---|---|---|---|---|---|
| Jumper length (cable material: PUR) | | 1 m | 2 m | 5 m | 10 m |
| 2 Straight Connectors Female/Male M 12 / 5 pins | Jumper for serial connection between Y connectors | XZCR1511064D1 | XZCR1511064D2 | XZCR1511064D5 | XZCR1511064D10 |

| Type | | | Y Splitter for XCSRM «Advance»<br>Miniature: XCSRM*3M12/L01M12 |
|---|---|---|---|
| M12 Y Splitter | M12, 8-8-5 pins, Female-Male-Female | To connect first and second switches in series | XCSRZY1 |
| | | To connect following switches in series | XCSRZY2 |

(1) For the connection of the last safety switch of the chain (XCSRC12M12 or XCSRC32M12) to the safety control unit

# Safety light curtains

**Choose :** 1 > 2 > 3 > 4 > Reference

1 Standard type (2 or 4) and detection capacity
2 Height protected
3 Sensing range
4 Embedded functions

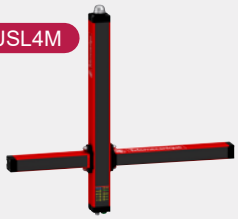
## XUSL Type 4

### Finger, hand and body detection (5)

PLe/Cat4 - SIL3

| Height protected (mm) | Finger detection (resolution 14 mm) | Hand detection (resolution 30 mm) | Body detection (detection thru 2-3 or 4 beams) |
|---|---|---|---|
| | Sensing distance 0...3m or 1...6m selectable | Sensing distance 0...4m or 0...12m selectable | Sensing distance 0...4m or 0...12m selectable |
| | Automatic or manual start/restart | | |
| | External Device Monitoring (EDM) | | |
| 160 | XUSL4E14F016N | XUSL4E30H016N | |
| 260 | XUSL4E14F026N | XUSL4E30H026N | |
| 310 | XUSL4E14F031N | XUSL4E30H031N | |
| 460 | XUSL4E14F046N | XUSL4E30H046N | |
| 510 - 2 beams | | | XUSL4E2BB051N |
| 610 | XUSL4E14F061N | XUSL4E30H061N | |
| 760 | XUSL4E14F076N | XUSL4E30H076N | |
| 810 - 3 beams | | | XUSL4E3BB081N |
| 910 | XUSL4E14F091N | XUSL4E30H091N | |
| 910 - 4 beams | | | XUSL4E4BB091N |
| 1060 | XUSL4E14F106N | XUSL4E30H106N | |
| 1210 | XUSL4E14F121N | XUSL4E30H121N | |
| 1360 | XUSL4E14F136N | XUSL4E30H136N | |
| 1510 | XUSL4E14F151N | XUSL4E30H151N | |
| 1660 | XUSL4E14F166N | XUSL4E30H166N | |
| 1810 | XUSL4E14F181N | XUSL4E30H181N | |

### XUSL4M



| | |
|---|---|
| | Integrated muting (1) (4) |
| 510 - 2 beams | XUSL4MA2BB051N (2) |
| | XUSL4MB2BB051N (3) |
| 810 - 3 beams | XUSL4MA3BB081N (2) |
| | XUSL4MB3BB081N (3) |
| 910 - 4 beams | XUSL4MA4BB091N (2) |
| | XUSL4MB4BB091N (3) |

(1) Possible association with pre-built/ pre-adjusted muting arms XUSZAS* (single beam muting sensors) and XUSZAM* multi-beam muting sensors).
(2) Hardware and Software configuration (with SoMute software), partial muting and integrated muting lamp
(3) Hardware configuration only
(4) For hand detection, some models are available in 30mm and 40mm resolutions, in different protected heights
(5) IP69K special models with ECOLAB conformity are available for XUSL4E and XUSL2E

## XUSL Type 2

### Hand and body detection (5)

PLc/Cat2 - SIL1

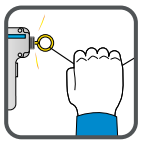
| Height protected (mm) | Hand detection (resolution 30 mm) | Body detection (thru 2-3 or 4 beams) |
|---|---|---|
| | Sensing distance 0...4m or 0...12m selectable | |
| | Automatic or manual start/restart | |
| | External Device Monitoring (EDM) | |
| 160 | XUSL2E30H016N | |
| 260 | XUSL2E30H026N | |
| 310 | XUSL2E30H031N | |
| 460 | XUSL2E30H046N | |
| - 2 beams | | XUSL2E2BB051N |
| 610 | XUSL2E30H061N | |
| 760 | XUSL2E30H076N | |
| 810 - 3 beams | | XUSL2E3BB081N |
| 910 | XUSL2E30H091N | |
| 910 - 4 beams | | XUSL2E4BB091N |
| 1060 | XUSL2E30H106N | |
| 1210 | XUSL2E30H121N | |
| 1360 | XUSL2E30H136N | |
| 1510 | XUSL2E30H151N | |
| 1660 | XUSL2E30H166N | |
| 1810 | XUSL2E30H181N | |

## Accessories

### Pre-wired connectors

| | | For use with... XUSL2E*/4E*/4M* | XUSL2E*/4E* |
|---|---|---|---|
| | | M12 connector 5 pins - Female | |
| | | Transmitter | |
| XZCP1164L● | Length | Straight | 90° |
| | 2 m | XZCP1164L2 | XZCP1264L2 |
| | 5 m | XZCP1164L5 | XZCP1264L5 |
| | 10 m | XZCP1164L10 | XZCP1264L10 |
| | 15 m | XZCP1164L15 | XZCP1264L15 |
| XZCP1264L● | 25 m | XZCP1164L25 | XZCP1264L25 |
| | | For use with XUSL2E* / 4E* | |
| | | M12 connector 8 pins - Female | |
| | | Receiver | |
| XZCP29P11L●● | Length | Straight | 90° |
| | 2 m | XZCP29P11L2 | XZCP53P11L2 |
| | 5 m | XZCP29P11L5 | XZCP53P11L5 |
| | 10 m | XZCP29P11L10 | XZCP53P11L10 |
| | 15 m | XZCP29P11L15 | XZCP53P11L15 |
| | 25 m | XZCP29P11L25 | XZCP53P11L25 |
| | | For use with XUSL4M* | |
| | | M12 connector 12 pins - Female | |
| | | Receiver | |
| XZCP57V12L● | Length | Straight | |
| | 5 m | XZCP57V12L5 | |
| | 10 m | XZCP57V12L10 | |
| | 15 m | XZCP57V12L15 | |

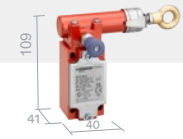
# Emergency stop rope pull switches



**Choose : 1** Body and cable lenght **> 2** Function **> 3** Contact **> 4** Connection **> Reference**

## XY2CJ

**Metal**




| | Threaded cable entries - anchoring point | NC+NO | 2NC | 2NC+NO |
|---|---|---|---|---|
| 20 meters cable length | Pg13.5 - straight | XY2CJS15 (1) | XY2CJS17 (1) | XY2CJS19 (1) (2) |
| 30 meters cable length | Pg13.5 - right side | XY2CJR15 (1) | XY2CJR17 (1) | XY2CJR19 (1) (2) |
| 30 meters cable length | Pg13.5 - left side | XY2CJL15 (1) | XY2CJL17 (1) | XY2CJL19 (1) (2) |

(1) For ISO M20, just add «H29» to the part number (example: XY2CJS15 becomes XY2CJS15H29)
(2) For 1/2» NPT, just add «H7» to the part number (example: XY2CJS19 becomes XY2CJS19H7)

## XY2CH

**Metal**


| 30 meters cable length | Tapped cable entries | NC+NO | 2NC | 2NC+NO |
|---|---|---|---|---|
| Reset by booted pushbutton | Pg13.5 | XY2CH13250 | XY2CH13270 | XY2CH13290 |
| | ISO M20 | XY2CH13250H29 | XY2CH13270H29 | XY2CH13290H29 |
| | 1/2" NPT | XY2CH13250H7 | XY2CH13270H7 | XY2CH13290H7 |

(3) Also available with pilot light

## XY2CE

**Metal**


| 70 meters cable length | Plain hole cable entries | NC+NO | 2NC | 2NC+2NO |
|---|---|---|---|---|
| Reset by booted pushbutton; Anchor point on right side. | Pg13.5 | XY2CE1A250 | XY2CE1A270 | XY2CE1A290 |
| | 1/2" NPT | XY2CE1A250H7 | XY2CE1A270H7 | XY2CE1A290H7 |
| Reset by booted pushbutton; Anchor point on left side. | Pg13.5 | XY2CE2A250 | XY2CE2A270 | XY2CE2A290 |
| | 1/2" NPT | XY2CE2A250H7 | XY2CE2A270H7 | XY2CE2A290H7 |

(4) Also available with pilot light

## XY2CED

**Metal**


| ≥ 2 x 35 meters cable length and ≤ 2 x 100 meters cable length | Plain hole cable entries | 2 NC + 2 NO slow break |
|---|---|---|
| Reset by booted pushbutton | Pg13.5 | XY2CEDA290 (5) |
| | 1/2" NPT | XY2CEDA290H7 |
| Reset by key release (N° 455) pushbutton | Pg13.5 | XY2CEDA590 (5) |

(5) Also available with pilot light. An adjustment shim and 2 end springs are supplied with XY2CED switches

| Accessories | XY2CJ | XY2CH | XY2CE | XY2CED |
|---|---|---|---|---|
| Mounting kit | XY2CZ9425 (5) | XY2CZ9330 (6) | XY2CZ9570 (7) | XY2CZ96200 (8) |

(5) Kit contents: 1 galvanised cable L: 30.5 (Ø 3.2 mm), quick tensioner, cable supports, and end spring.
(6) Kit contents: 1 galvanised cable L: 30.5 m (Ø 3.2 mm) and end spring.
(7) Kit contents: 1 galvanised cable L: 70.5 m (Ø 5 mm), turnbuckle, cable supports, cable end protectors and end spring.
(8) Kit contents: 2 galvanised cables L: 100.5m (Ø 5mm) and quick tensioners.

# Safety modules for monitoring

**Choose : 1 Function > 2 Supply voltage > 3 Terminal > Reference**

NEW

| | | XPSBAC | XPSBAT | XPSUAF | XPSUAK | XPSUAT | XPSUDN | XPSUS | XPSUVN | XPSUEP |
|---|---|---|---|---|---|---|---|---|---|---|
| 24-48 VDC/VAC | Screw terminal | XPSBAC14APTE | XPSBAT12A1APTE | XPSUAF13APTE | XPSUAK12APTE | XPSUAT13A3APTE | XPSUDN13APTE | XPSUS12APTE | XPSUVN11APTE | XPSUEP14APTE |
| | Spring terminal | XPSBAC14ACTE | XPSBAT12A1ACTE | XPSUAF13ACTE | XPSUAK12ACTE | XPSUAT13A3ACTE | XPSUDN13ACTE | XPSUS12ACTE | XPSUVN11ACTE | XPSUEP14ACTE |
| 240 VDC/VAC | Screw terminal | XPSBAC34APTE | | XPSUAF33APTE | XPSUAK32APTE | XPSUAT33A3APTE | XPSUDN33APTE | XPSUS32APTE | XPSUVN31APTE | XPSUEP34APTE |
| | Spring terminal | XPSBAC34ACTE | | XPSUAF33ACTE | XPSUAK32ACTE | XPSUAT33A3ACTE | XPSUDN33ACTE | XPSUS32ACTE | XPSUVN31ACTE | XPSUEP34ACTE |

XPSBAC XPSBAT XPSUAF XPSUAK XPSUAT XPSUDN XPSUS XPSUVN XPSUEP

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Maximum achievable safety level** | **PL e / Category 4 conforming to ISO 13849-1<br>SILCL3 conforming to IEC 62061<br>SIL3 conforming to IEC61508** | | | | | | | | | |
| **Number of outputs** | **4 NO + 2 NC** | **2 NO, 1 NO delayed (selectable from 0.1s to 15min) 1 solid state** | **3 NO 1 pulsed output** | **2 NO 1 redundant NC, 1 pulsed output** | **3 NO immediate, 3 NO delayed (selectable from 0.1 s to 15 min. by 10 steps of 10 steps of 0.1 s which can be multiplied by 1, 10w, 100, and 1,000) or immediate + 1 NC** | **3 NO 1 redundant NC, 1 pulsed output** | **2 NO 1 pulsed output** | **1 NO, 1 pulsed solid state, 1 solid state** | **4 NO + 2NC** |
| **Range** | **XPSBAC** | **XPSBAT** | **XPSUAF** | **XPSUAK** | **XPSUAT** | **XPSUDN** | **XPSUS** | **XPSUVN** | **XPSUEP** |
| **Display** | 5 LEDS | 8 LEDS | 6 LEDS | 6 LEDS | 8 LEDS | 16 LEDS | 6 LEDS | 5 LEDS | 3 LEDS |
| **Synchronization time between inputs** | Fixed | | Selectable | | | | | Fixed | / |
| **Input channels** | 2 | 2 | 2 | 2 | 3 | 12 | 4 | 3 | / |
| **Start input** | Automatic, manual & monitored start | | | | | | | | |
| **Control configurable pulsed outputs** | NA | | 3 ON/OFF | | 4 ON/OFF | 7 ON/OFF | 3 ON/OFF | | |
| **Module width** | 22.5 mm/0.886 in. | | | | 45 mm/1.77 in. | | 22.5 mm/0.886 in. | | |

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