



Distribution / Export

# Machine safety

Non contact safety switches

Expert in the machine safety



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BALLUFF-LEUZE PTY LTD  
Tel: 0061 3 9720 4700  
Fax: 0061 3 9738 2677  
Email : sales@balluff.com.au

**Austria :**

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Fax : 0043 1706 41 31  
Email : office@lico.at

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Fax : 0032 33 267 031  
Email : purchase@restutech.com

**DIGITRON - Pulderbos**

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Fax : 0032 348 46 323  
Email : anke@digitronbel.com

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SGS Partners  
Tel: 0055.11.3832.1671  
Fax: 0055.11.3645.3290  
Email : c.spina@sgspartners.com.br

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Fax: 00 86 10 6972 7243  
Email : bjruilinge@sina.com

**Shanghai Cankey**

Tel: 0086 21 61474207808  
Fax: 0086 21 61474208  
Email : andywang@cankey.com

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Fax : 00420 241 940 989  
Email : sensory@infrasensor.cz

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Tel : 0045.70.25.26.50  
Fax : 0045.70.25.26.51  
Email : info@dovitech.dk

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Tel : 00358.9852.661  
Fax : 00358.9852.6820  
Email : automaation@sksf.fi

**Germany :**

HAAKE+SEIM Gmbh - Radervormwald  
Tel : 0049 21 9593 1396  
Fax : 0049 21 9593 1398  
Email : info@haake-seim.com

**ASG – Friedberg**

Tel: 0049.60.31.77.18.83  
Fax: 0049.60.3177.18.39  
Email : asg.glowacky@t-online.de

**Ireland :**

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Fax : 00353 21 428 69 67  
Email : info@distributors.com

**Israel:**

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Fax: 00972 355 69 278  
E-mail: moshe@ancitech.com

**Italy :**

TECNEL SYSTEM Srl - Milano  
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Fax : 0039 022 700 1038  
Email : acquisti@tecnelsystem.it

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Fax: 0081 337 104 552  
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# Our international distribution network

**Morocco :**

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Fax : 00356 2180 3232  
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Fax : 0031 40285 8837  
Email : purchase@restutech.com

ISOTRON - Hertogenbosch  
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Fax : 0031 73 6391 699  
Email : rhe@isotron.nl

**Poland :**

INSTOM Sp. Z.O.O. - Lodz  
Tel: 0048 42 640 75 85  
Fax: 0048 42 640 76 22  
Email : handlowy@instom.com.pl

DACPOL - Piaseczno

Tel: 0048 227 035 135  
Fax: 0048 227 035 101  
Email : dacpol@dacpol.com.pl

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Fax : 00421 48 414 70 88  
Email : eximtech@eximtech.sk

**Slovenia :**

SENSOR Doo - Maribor  
Tel : 00386.2.6131831  
Fax : 00386.2.6132275  
Email : sensor@siol.net

**South africa :**

Atlas Industrial Systems  
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Fax : 00356 2180 3232  
Email : herbert@atlassystems.co.za

**Spain :**

INTERTRONIC - Valencia  
Tel : 0034 963 758 050  
Fax : 0034 963 751 022  
Email : compras@intertronic.es

**Switzerland :**

TRACO INDUSTRIECHNIK - Zurich  
Tel : 0041 1284 2911  
Fax : 0046 85 559 6060  
Email : info@traco.ch

**Turkey :**

SIMEKS - Istanbul  
Tel : 0090 212 238 6963  
Fax : 0090 212 297 46 82  
Email: info@simeks.biz.tr

**UK:**

RAYLEIGH INSTRUMENT Ltd - Essex  
Tel : 0044 1268 749 301  
Fax : 0044 1268 749 309  
Email: sales@rayleigh.co.uk

**United States :**

EEC Controls and Safety - Brewster  
Tel : 001 845 278 5777  
Fax: 001 845 278 5444  
Email : info@eecontrols-safety.com

A world map with landmasses in orange and oceans in light blue. Overlaid on the map is the text 'If you don't find your country in the list, please contact us at export@comitronic.net' in bold yellow font with a black outline.

**If you don't find your country  
in the list, please contact us at  
[export@comitronic.net](mailto:export@comitronic.net)**



# Sales conditions

## DELIVERY, FREIGHT

For any destination or sales conditions, the delivery is done immediately after the forwarder has collected the goods in our factory. The risk and responsibility are taken charge by the purchaser at the moment of goods collection, even in case of Ex-works. The goods may be insured only on the express request of the purchaser at his cost. The purchaser should verify the goods after receiving them and reclaim to the forwarder in time if necessary.

## PAYMENT TERM

First order : payment in advance based on proforma invoice  
Following orders: at 30 days net of invoice date by bank transfer  
MINIMUM ORDER  
550 Euro for distributors.

## DELIVERY TIME

Those delivery times have an indicative value and could not be a reason for an order cancellation or for asking any compensation.

## COMPLAINT, WARRANTY

Any complaint concerning the quantity must be done within 4 days after the receipt of the products. Concerning the quality, our responsibility is limited to the repairing or the replacement. This complaint can't be taken in any case as a request of compensation for replacement, for a stop of production...etc. The defective parts should have been delivered from our stock; we would have recognize them having a problem and they must have been sent back to us within one year after the delivery. Our warranty does not include the consequence of the normal wearing effect, the bad using of the product and a lack of maintenance.

## RETURN OF GOODS

We do not accept any return of goods and any credit note without our previous agreement. All return of material due to a customer mistake and agreed by us, will be charged of 30% of the material value, for putting back the material in stock.

## SALES CONDITIONS

The mentioned characteristics, dimensions and weight have just an indicative value. The mentioned drawing, the risk analysis and the applications advice have only an indicative value. The purchase and the choice of the products is under the entire responsibility of the purchaser, the COMITRONIC company and its partner can not be held responsible for the choice or the mounting of the products. At least, as the evolution of the standards is fast, the risk category of the products can be developed without warning.

## PRICES AND PAYMENT TERMS

Our prices are without taxes. The freight cost and packaging are at the charge of the purchaser, invoices are done with the current prices. Our invoicing is stopped on 25th of each month but the considered date is the date of the receipt of the goods. For every special products, a payment in advance of 30% will be required. Every amount which will be not paid at the expiry date will be raised through interests.

## RESERVE OF PROPERTY

COMITRONIC holds the property of the products until the complete payment of the invoice and the goods could not be resold without the agreement of BTI. Until the complete payment of the invoice, the purchaser will be held responsible for any damage on the products.

## ORDER EXECUTION

We are free of the obligation to deliver any products in case of absolute necessity such as strike, accidents...

## CONTESTING

In case of contesting, the « tribunal de Commerce de Bobigny » is the only court recognized by both companies.

## TERRITORIALITY

The above sales conditions are applicable to the export market.  
By ordering by fax, phone or mail, the purchaser accepts the above sales conditions.



# Machine safety

PROCESS ACOTOM®



F-93160 Noisy Le Grand

Offer you his collaboration and expertise for:

- The risk analysis and dangers of your machines
- Define together the risks estimation acc. to ISO 13849-1
- Meet competent people



 **RoHS**  
Compliant

**TÜV**



Certified by INERIS  
N° 06 ATEX 007

EEx SYST ( ia IIC T4 )



Visit our web site [www.comitronic.net](http://www.comitronic.net) or call us at 0033. 143.03.03.03 be informed on :

The validity of the EN954-1 standard

The ISO 13849-1 : - PL determination

- Risks parameters
- Risks evaluation and SIL determination

# Safety devices

Non contact safety switches with Process ACOTOM®

- Stand alone
- Non stand alone
- EX safety switches (catalogue on request)
- RFID safety switches (catalogue on request)
- Safety switches with electromagnetic holding (catalogue on request)
- Interlocking device (catalogue on request)



# Coded non contact safety switch

## Info

Choose a reliable technology

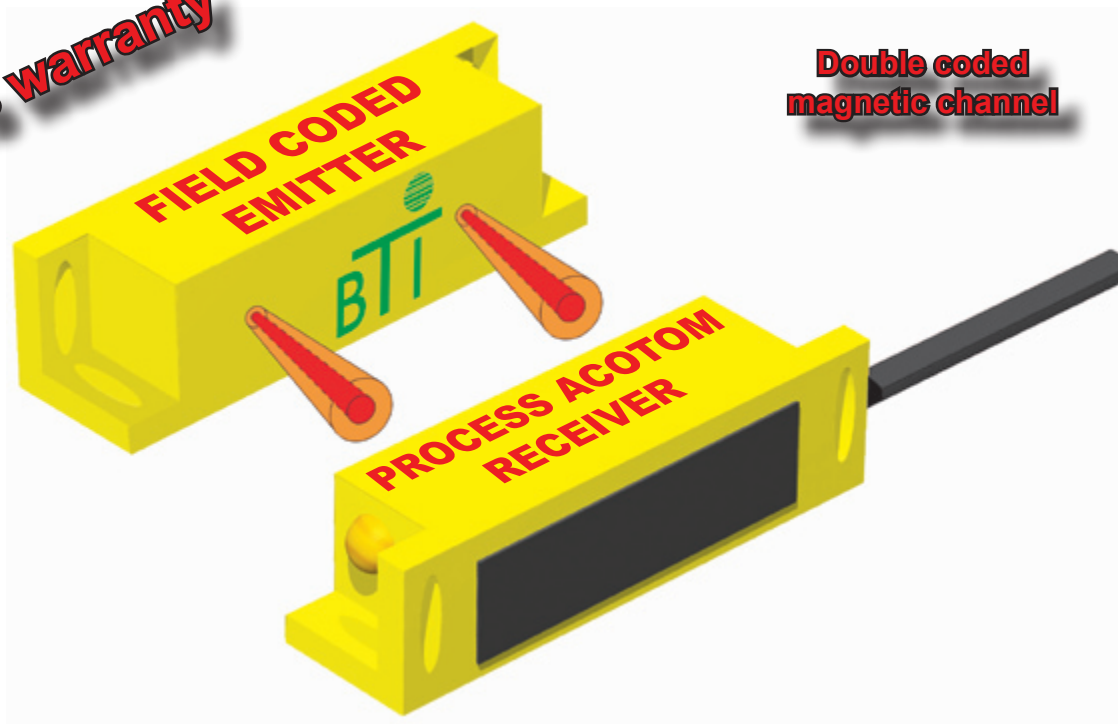
3 years warranty

## Process ACOTOM ® Technology

The ACOTOM ® Process created by BTI in 1993 is based on a double and independant decoding channel.

It does not use any reed contact, whose everybody knows the inconvenients, neither any programmable device, which has to comply with the SIL standards.

3 years warranty

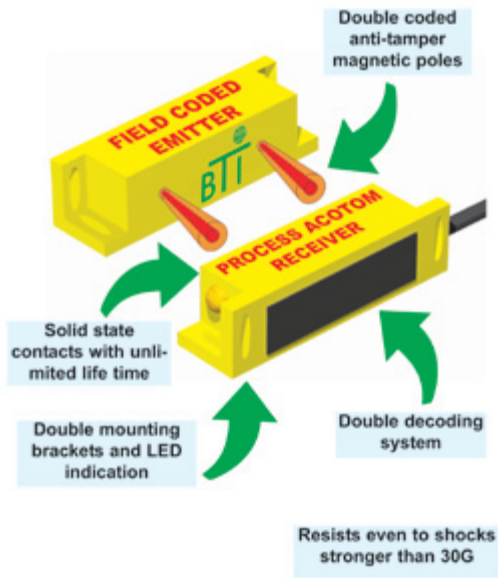


Up to 124 codes available

# Process ACOTOM®

## Process ACOTOM® 2

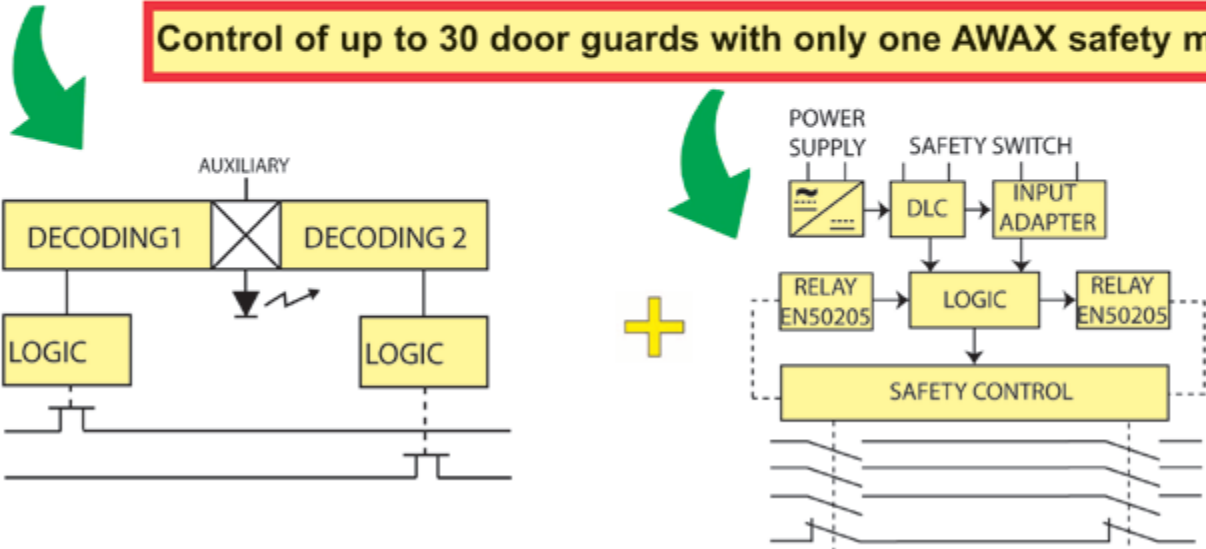
For non stand alone safety switches



### The ACOTOM®2 process

### A global safety solution

### Control of up to 30 door guards with only one AWAX safety module





# Process ACOTOM®

## Process ACOTOM®3

How to protect an access?

### → Mechanical switches

We can easily identify the problems and disadvantages while using mechanical switches. The most obvious are:

- high total costs (including mounting costs)
- very small misalignment possible
- not suitable for food industry.

### → Magnetic switches

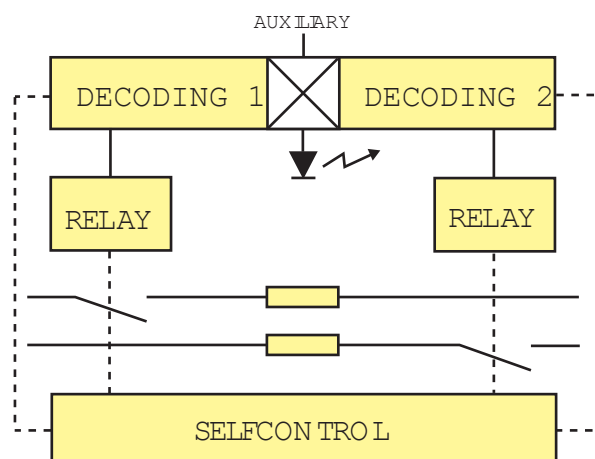
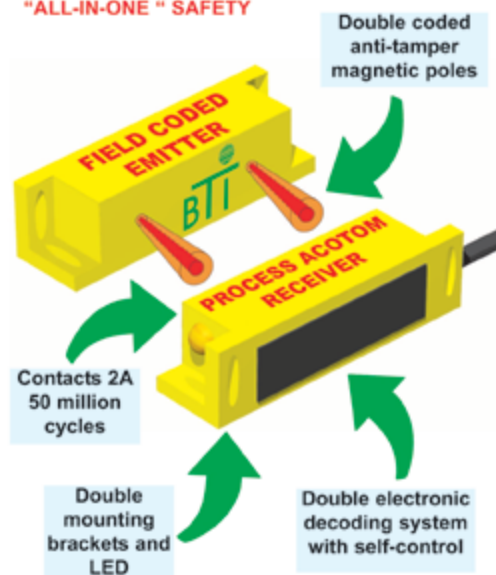
The reed contact system seemed to be improved compared to mechanical switches, but new problems have appeared:

- This switch can be easily manipulated by a magnet
- High hysteresis (10mm)
- Magnetic disturbances
- Non synchronized activation of contacts
- Limited number of switches in series (the LED generally does not light up to 6 switches)
- Auxiliary line and LED do not indicate the whole state of the switch

### → Process ACOTOM®3

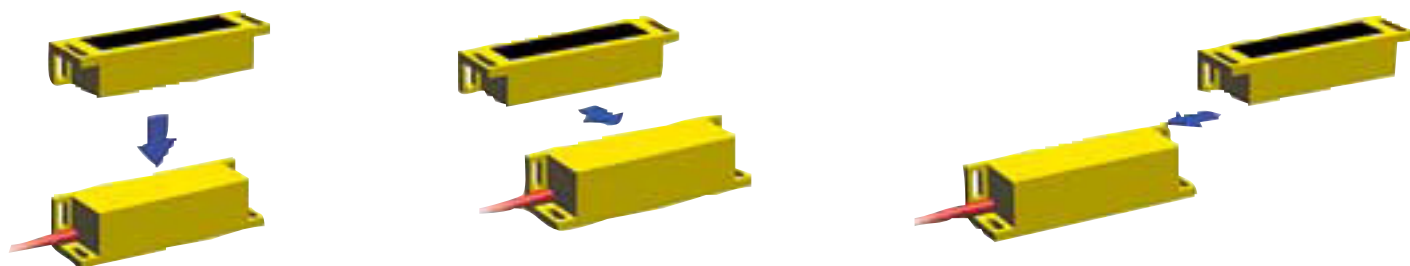
- High coding possibility with dual channel
- Multi- or simple coding
- Integrated self-control (no external safety module needed)
- Safety level from 1 up to 4
- High misalignment authorized in all axis (+/- 7mm)
- High detection distance (10mm or more upon request)
- Constant small hysteresis < 2mm
- Unlimited « daisy chain » wiring
- LED and auxiliary line showing the exact state of the whole switch
- 316L stainless steel version with laser marking for harsh use
- Version for high temperature +110°C
- Version with built-in or pig-tail connector
- Version with a removed key or locked key
- Miniature version for the manholes.

"ALL-IN-ONE" SAFETY



# Benefits of the Acotom Process ®

**1) Non contact with misalignment authorized.**



**2) High coding possibility, up to 124 codes.**

**3) Immune to external magnetic field. The stand alone version offers dry contacts, potential-free with armoured relays.**

**4) Very small and constant hysteresis. Our electronic decoding system does not include reed contacts.**

**5) Resistant to the shocks and vibrations.**

**6) Reliability**

> up to 3,5 million electrical cycles on full load

> up to 50 million mechanical cycles

> 3 years warranty

**7) Wide choice: different sizes and shapes/with M12 connector / with magnetic holding force / EX range.**

**8) Suitable for your needs :**

- Low/high temperature

- Waterproofness up to IP69k

- Polycarbonate

- Polyamide

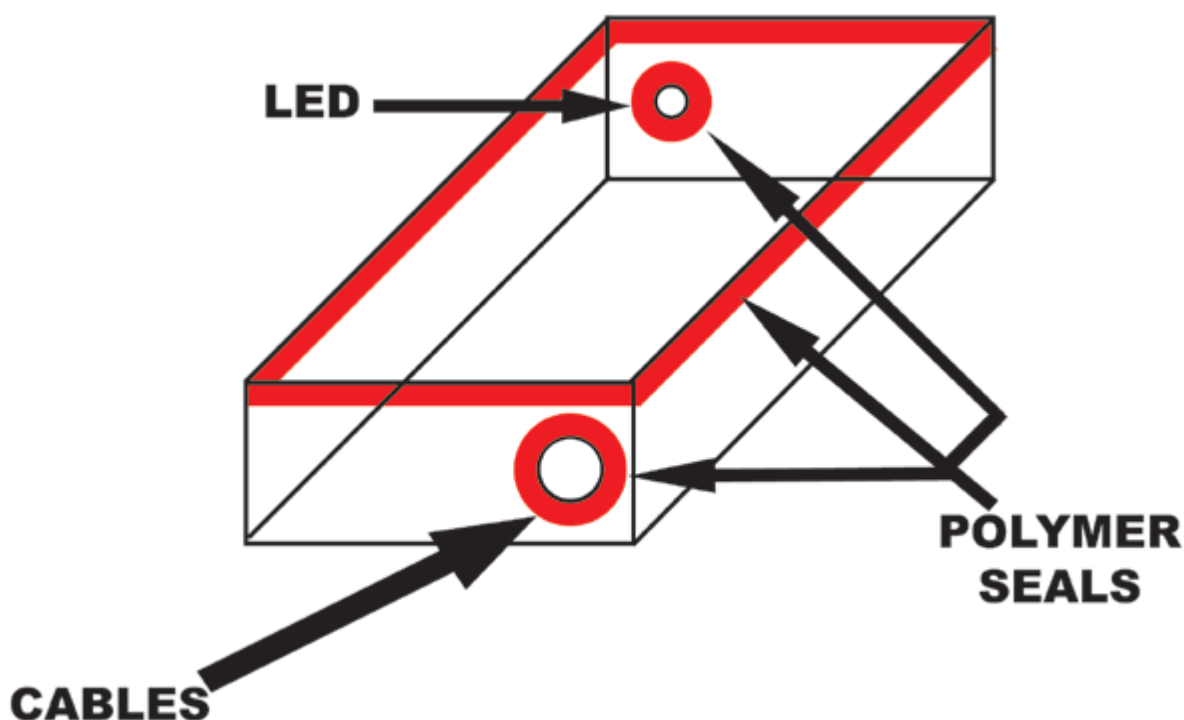
- Stainless steel 316L

**9) Auxilliary output with integral LED display status**

# 316L stainless steel safety switches

**IMPROVED SEALING**

**IP69K:** The complete control of sealing in a wide range of temperature (depending on the model) from **- 30 C°** to **+ 110 C° permanent**.



A wide polymer seal on the device allows a high waterproofness of the switch.

## Exceptional performances are obtained :

- Very high waterproofness (fresh, salted, chlorinated water)
- Very high resistance to the temperature: -30 C° +110 C°
- Very high resistance to torsions, vibrations, shocks
- Resist to cleaning and disinfectant products
- Perfect sticking between the elements
- Complete polymer sealing
- Resists to UV



# FURTIF AMX

## Non-contact and coded safety switch : Total safety in category 3

- Integrated self-checking
- Detection distance/hysteresis/misalignment : 10 /+2 /±7 (mm)
- LED indication of switch condition
- Mounting brackets and moulded cable
- Available with a M12 connector (AMX3/AMX5)
- Polycarbonate housing
- Available in stainless steel 316L (except for AMX4)
- Protection class IP67
- Temperature -20°C to +60°C



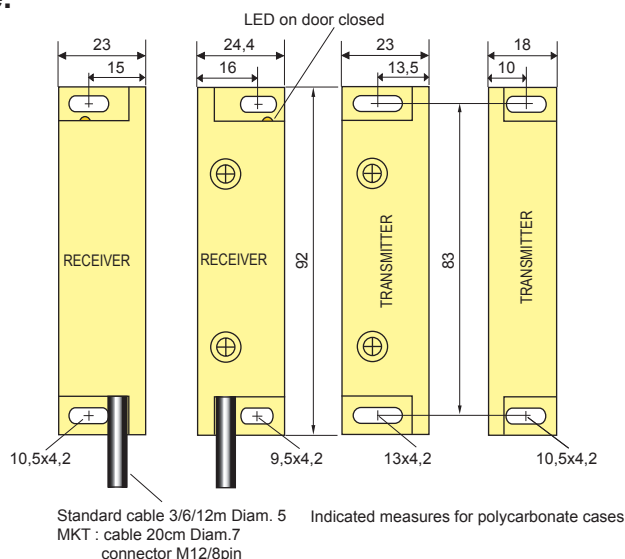
### Safety category

AMX3 / AMX4 / AMX5: category 3\* PLe according to ISO13849-1

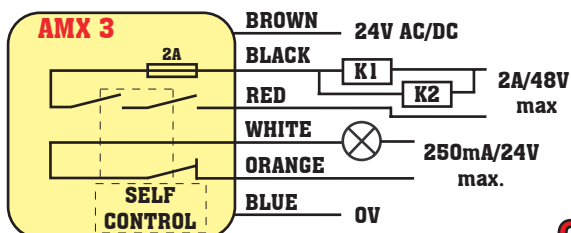
AMX4/AMX5 in category 4\*PLe with a safety module.\*  
Regardless of number of switches in series.



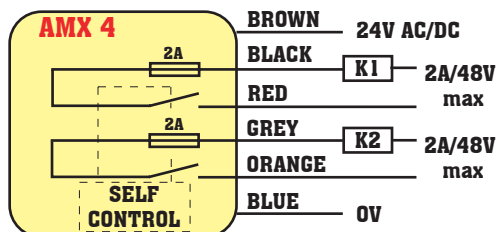
### Dimensions



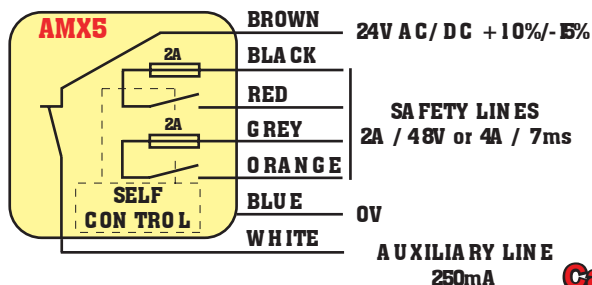
### Wiring diagram



Cat.3



Cat.3



Cat.3

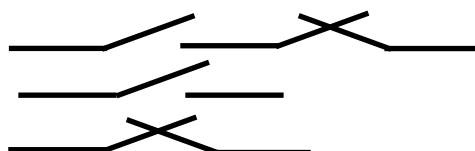
Our switches are equipped with a 2A fuse in order to guarantee electrical protection.

### Advice

Control of the moving protectors of dangerous machines with a high authorized misalignment without any safety module in the electric board.

AMX 3 in case of failure

AMX 4 / 5 in case of failure



# FURTIF AMX/INOX

**Non-contact and coded safety switch in stainless steel :  
Category 3 for hard environment**

- Integrated self-checking
- Detection distance/hysteresis/misalignment  
: 10 /+2 /±7 (mm)
- LED indication of switch condition
- Mounting brackets and moulded cable
- Available with a M12 pig tail connector (AMX3/  
AMX5)
- Stainless steel housing
- Protection class IP67
- Temperature -20°C to +60°C



## Safety category

AMX3 / AMX5 : category 3\* according to ISO13849-1

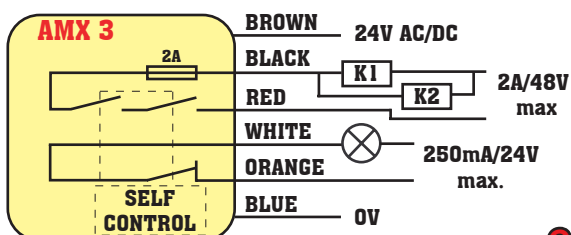
AMX5 : category 4\* with safety module

\*Regardless of number of switches in series

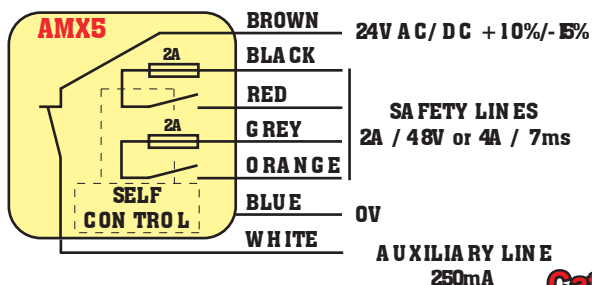


## Dimensions

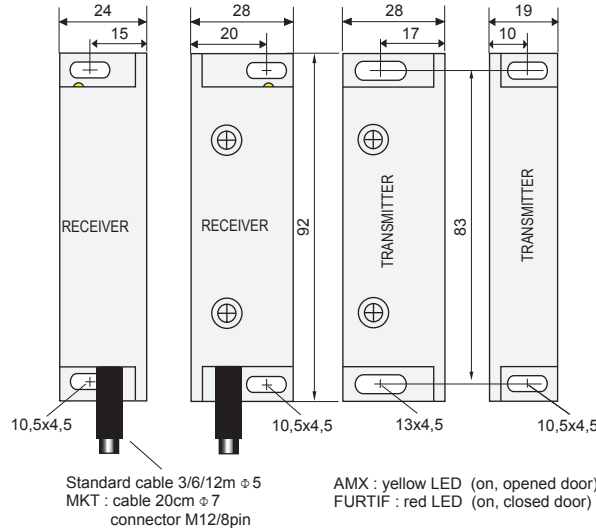
## Wiring diagram



Cat.3



Cat.3



## Advice

Control of the moving machine guards with a high tolerance of misalignment without using any safety module in the electric board.

AMX 3 in case of failure



AMX 5 in case of failure



Our switches are equipped with a 2A fuse in order to guarantee electrical protection.



# FURTIF 3,4 & 5SSR

## Non-contact coded safety switch for the control of door

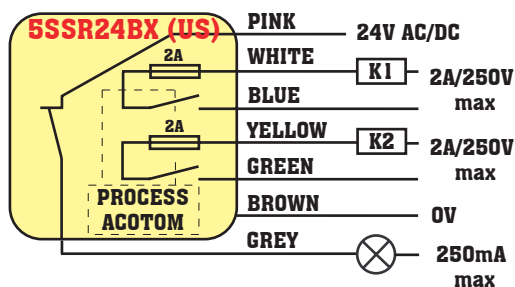
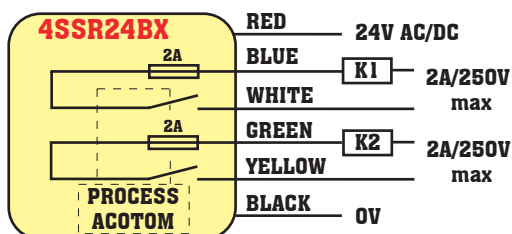
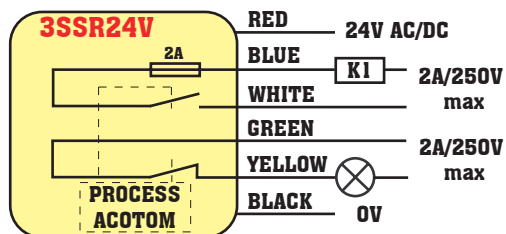
- Detection distance/hysteresis/misalignment :  
10 /+2 /±10 (mm)
- Red LED indication of actuator absence
- Dual color LED for the models 4SSR24BX and 5SSR24BXUS
- Mounting brackets and moulded cable
- M12 pig tail connector
- Polycarbonate housing
- Protection class IP67
- Temperature -20°C to +60°C



### Safety category

3SSR24V/4SSR24BX/5SSR24BX : category 1  
4SSR24BX / 5SSR24BX in series + safety module :  
category 3 (category 4 with only one switch)

### Wiring diagram

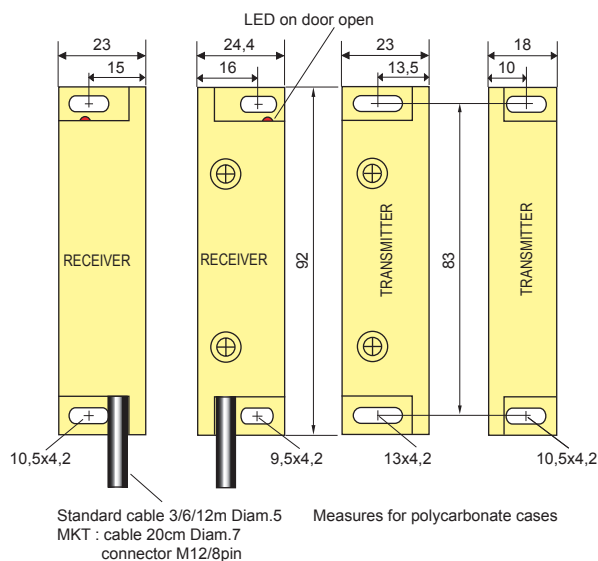


Cat.1

Cat.1

Cat.1

### Dimensions



### Advice

It easily replaces mechanical switches. You can benefit from an easy mounting with a high authorized misalignment and a coding system, uncheatable even with a horseshoe magnet.

Note : the green/yellow contact of 5SSR24BX is closed in case of lack of power supply.



# 5SSR24BX / INOX

## Non-contact coded electro-mechanical Safety switch in stainless steel

- Switching distance/hysteresis/misalignment:  
10 /+2 /±10 (mm)
- Red LED indication of actuator absence
- Mounting brackets and moulded cable
- M12 pig tail connector
- Housing in stainless steel 316 L
- Waterproof IP67/Temperature -20°C to +60°C
- Ideal for hard environment and for hygiene requirement

### Safety category

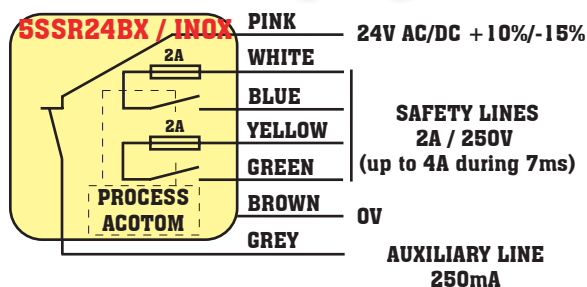
5SSR24BX/OX : category 1

5SSR24BX/OX in series + safety module : category 3 (category 4 if wired alone with safety module)

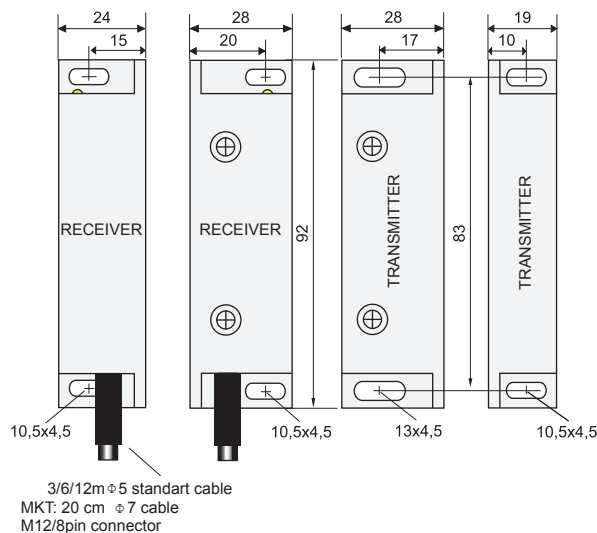


### Dimensions

### Wiring diagram



**Cat.1**



### Advice

- A better alternative to replace all mechanical switches with more tolerance to misalignment. It is manipulation free thanks to the ACOTOM coding system and resistant to chemicals and corrosion.
- Ideal for machines with strong vibration.

Note : The green-yellow contact is closed in case of power supply lack.

# FURTIF OPTO2S

## Coded non-contact safety switch for tiny access

- Small housing fits in tight access areas
- Resistant to shocks : 75G maxi
- Detection distance/hysteresis/misalignment :  
7 /+2 /±3 (mm)
- 2 NO 250mA/48V
- No delay between the channels
- LED indication of switch condition
- Mounting brackets and moulded cable
- Polycarbonate housing
- Protection class IP67
- Temperature -20°C to +60°C

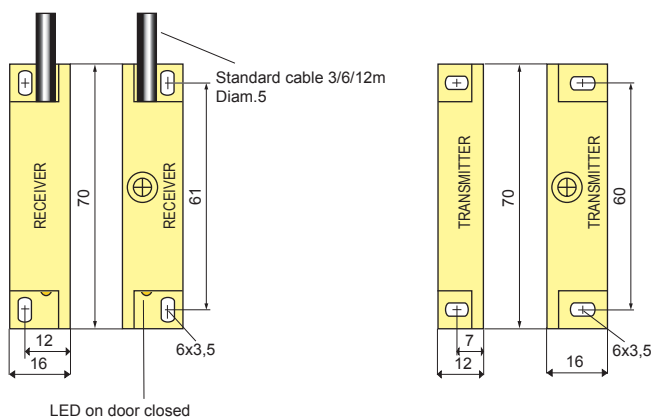
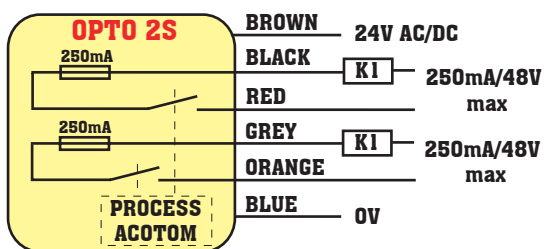


### Dimensions

### Safety category

OPTO2S : category 1 according to EN954-1  
1 OPTO2S + safety module : category 4  
OPTO2S in series + safety module : category 3

### Wiring diagram

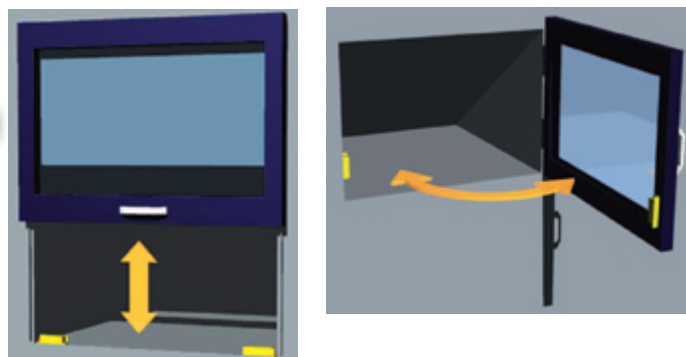


Cat.1

### Acceptable charges in the circuit

| Admissible overcurrent to 25°C | Functioning time |
|--------------------------------|------------------|
| In = 250 mA                    | 4 heures min     |
| In = 500 mA                    | 5 secondes max   |
| In = 750 mA                    | 0.2 secondes max |

This product can not work with an AWAX module in automatic reset mode (SR mode).



### Advice

It replaces mechanical and magnetic switches with reed contacts. Adapted to trap doors and manholes.

# FURTIF 7SSR24V

**Coded non-contact safety switch for the position control of moving doors and gates**

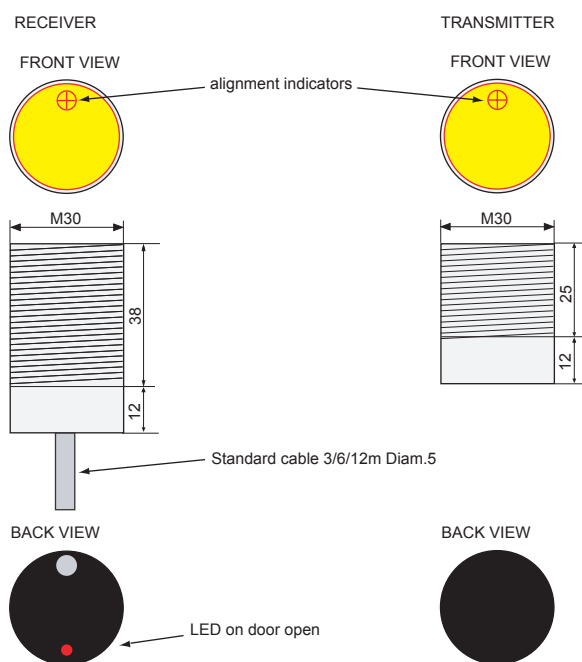
- Cylindrical design
- Misalignment :  $\pm 30^\circ$  in rotating movement
- Detection distance / hysteresis : 6 /  $\pm 2$  (mm)
- 2 NO 1A/48V + 1NC 24V/250mA
- Red LED indication of actuator absence
- Moulded cable
- Housing tube M30 in CuNi
- Protection class IP67
- Temperature  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$



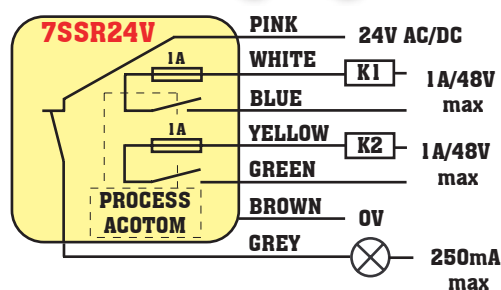
## Safety category

7SSR24V : category 1 according to EN954-1  
 7SSR24V + safety module : category 4  
 7SSR24V in series + safety module : category 3

## Dimensions



## Wiring diagram



**Cat.1**

## Advice

To replace mechanical and magnetic switches with reed contacts. Robust switch thanks to its metal housing.

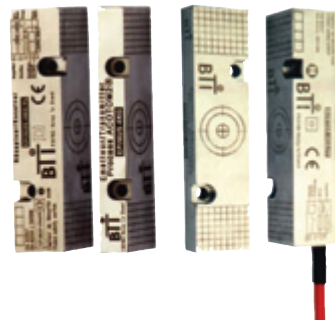
Note : the yellow/green line of the 7SSR24V is closed in case of lack of power supply.



# BOSTER

## Coded safety switch with magnetic latch for the guards of dangerous machines

- Magnetic latch 4 Kg
- Decoding by Acotom3 process
- Safety contacts 2A/48V
- Auxiliary output for automation control or lights
- Stainless steel 316L housing
- Laser marking
- Protection class IP67
- Temperature -20°C to +60°C



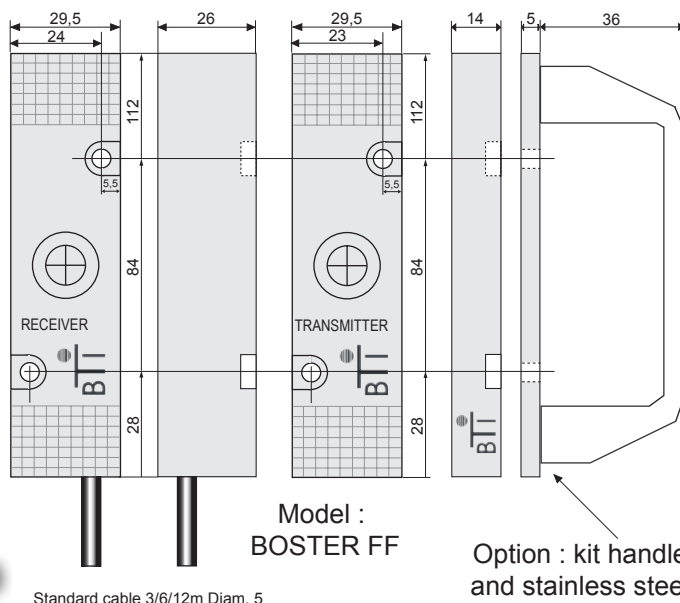
### Safety category

BOSTER : category 3\*

BOSTER in series + safety module :  
category 4\*

\*regardless of number of switches in series

### Dimensions

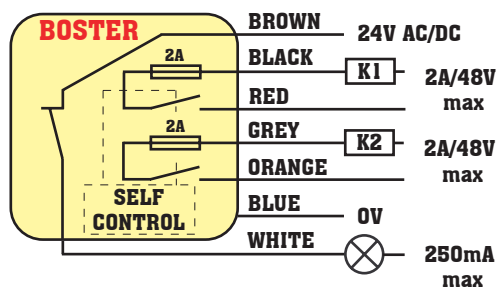


Model :  
BOSTER FF

Option : kit handle  
and stainless steel  
plate

**Front fixing : FF**

### Wiring diagram

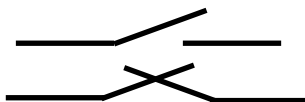


**Cat.3**

### Advice

Thanks to the stainless steel 316L housing and laser marking, this product can be used in the dairy industry. Door latches up to 5m<sup>2</sup>. The marking is still readable after cleaning.

BOSTER in case of failure



Our switches are equipped with a 2A fuse to  
guarantee electrical protection.



# RANGE WITH BUILT-IN CONNECTORS FOR EASY AND QUICK WIRING

**Equipé du Process ACOTOM® 2 & 3**  
**Certifié TÜV**  
**En conformité UL/CSA**



**Manipulation free:** Dismantling of the switch is prevented by sticking the screw cover  
- Complies with new standard:  
**NF EN ISO 12100-2**



**Without screw cover**

The MASSIMOTTO switch can even work through a **6 mm** surface in stainless steel or polycarbonate



**With screw cover**

Quick and easy fitting to 25 or 45 mm aluminium profile

LED is viewed via a translucent zone  
Screw cover + screw are supplied together  
Suited for demanding cleaning regimes



**Other versions**

Miniature range with M8 connector: OPTO3S, OPTO4S



AMX/ ANATOM with M12 connector



# MASSIMOTTO X5 M12 AR

# MASSIMOTTO X5 M12 SR

**Coded non-contact electro-mechanical safety switch**

- Automatic built-in self-checking
- Fitted with an input for manual reset
- With single M12 connector
- Switching distance/hysteresis : 8 mm/3 mm
- LED indication of actuator presence
- Polycarbonate housing
- Power supply : 24 V ac/dc -15% /+10% 50 /60 Hz
- Waterproof IP67/Temperature -20°C to +60°C
- Auxiliary output : NC PNP/250 mA
- Response time : 10 ms



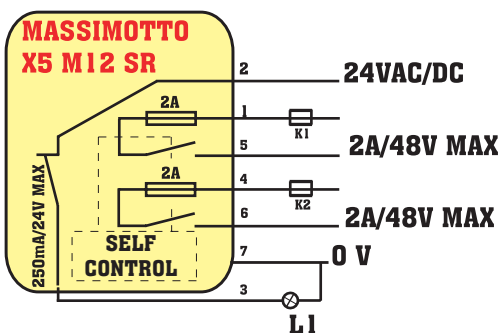
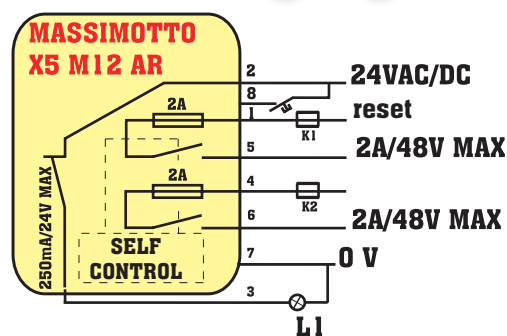
## Safety category

MASSIMOTTO X5 M12 AR : category 3 according to EN954-1/EN 12100-2

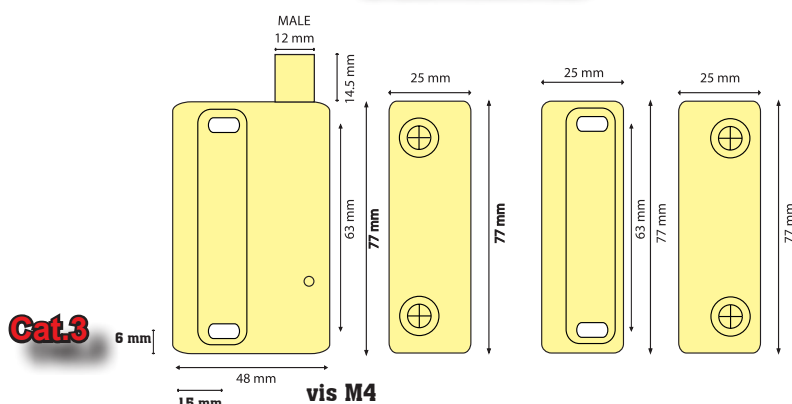
MASSIMOTTO X5 M12 AR : category 4\* in association with safety module

\*Regardless of number of switches in series

## Wiring diagram



## Dimensions



## Advice

Stand-alone safety switch with integrated manual reset. A useful alternative for installation in series. Ideal for small machines without elec-

trical cabinet.



# MASSIMOTTO X5.2 M12 AR

# MASSIMOTTO X5.2 M12 SR

**Coded non-contact electro-mechanical safety switch to control machine guard**

- Automatic build-in self-checking
- With input for manual reset (AR)
- With double M12 connectors
- Switching distance/hysteresis : 8 mm/3 mm
- LED indication of actuator presence
- Polycarbonate housing
- Power supply : 24 V ac/dc -15% /+10% 50 /60 Hz
- Waterproof IP67/Temperature -20°C to +60°C
- Auxiliary output : NC PNP/250 mA



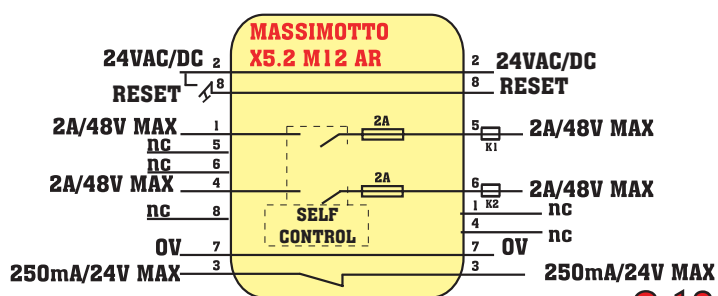
## Safety category

MASSIMOTTO X5.2 M12 SR : category 3 according to EN954-1/ EN 12100-2

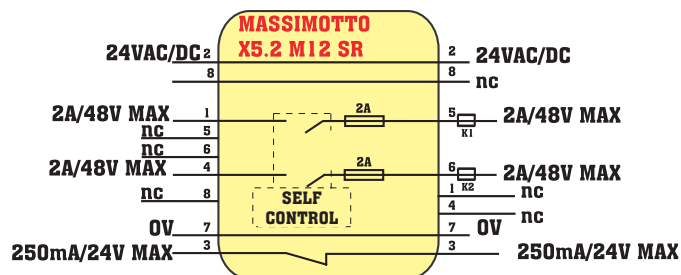
MASSIMOTTO X5.2 M12 SR : category 4\* with safety module

\*Regardless of number of switches in series

## Wiring diagram

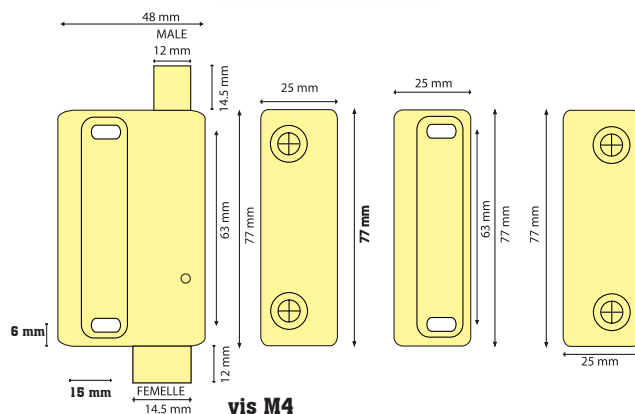


**Cat.3**



**Cat.3**

## Dimensions



## Advice

Controls machine guards without safety module. Manual reset function is built-in. Enables a quick and easy wiring in series.

Note : Fully integrated control

# AMX5C M12

## Coded non-contact electro-mechanical safety switch to control machine guard

- Self-monitoring
- Switching distance/hysteresis : 11 mm/3 mm
- 2NO 2A/48V & 1NC 250mA/24V
- LED indication of switch condition
- Polycarbonate housing
- Power supply : 24 V ac/dc -15% /+10% 50 /60 Hz
- Protection class IP67/Temperature -20°C to +60°C
- Auxiliary output : NC, PNP/250 mA
- With built-in M12-connector



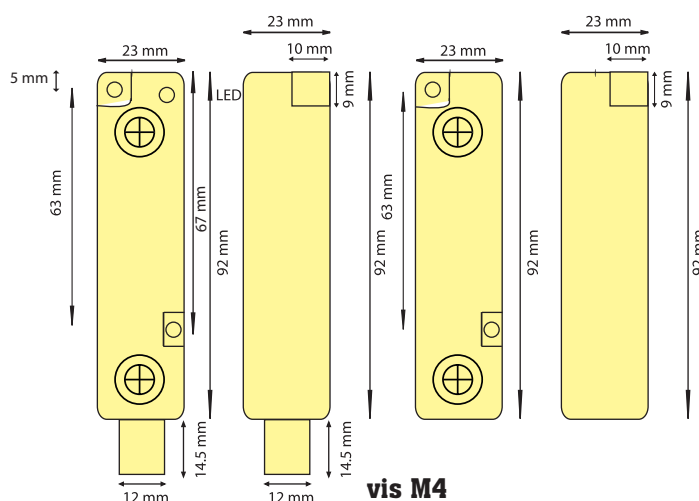
### Safety category

AMX5C M12 : category 3 according to EN954-1

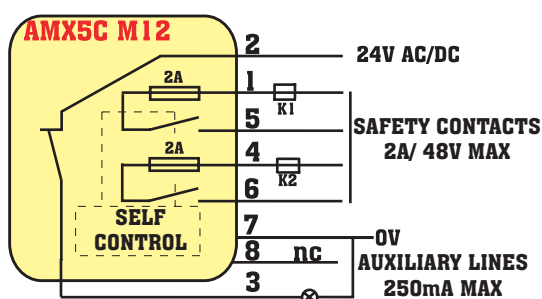
AMX5C M12 : category 4\* with safety module.

\*Regardless of number of switches in series

### Dimensions



### Wiring diagram



**Cat.3**

### Advice

It keeps the advantages of AMX5 and simplifies the wiring in serie.

# ANATOM M18

## Non-contact and coded electronic switch

- Cylindrical shape M18
- Decoding by Acotom®2 process
- Misalignment :  $\pm 30^\circ$  in rotating movement
- Detection distance/ hysteresis : 6 /+2 (mm)
- Auxiliary output for automation control or lights
- Metal housing CuNi
- Robust metal housing with M12 connector
- Protection class IP67
- Temperature:  $-20^\circ\text{C}$  to  $+60^\circ\text{C}$
- Unlimited life expectancy (unlimited number of operations)



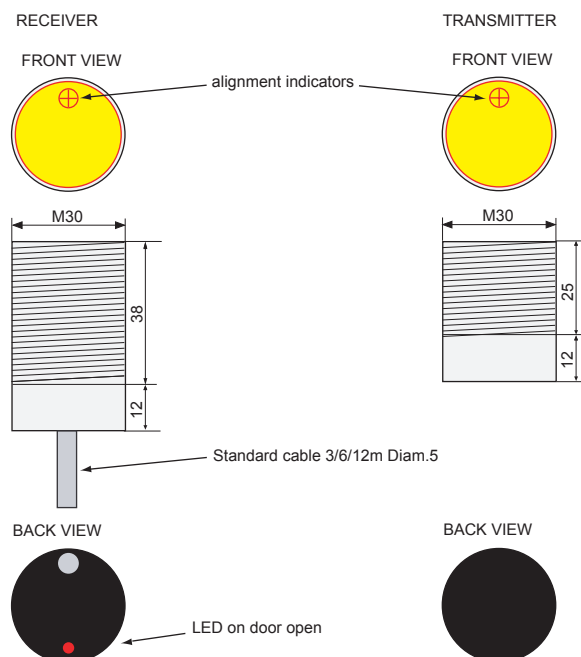
### Safety category

ANATOM M18 : EN60947-5-3

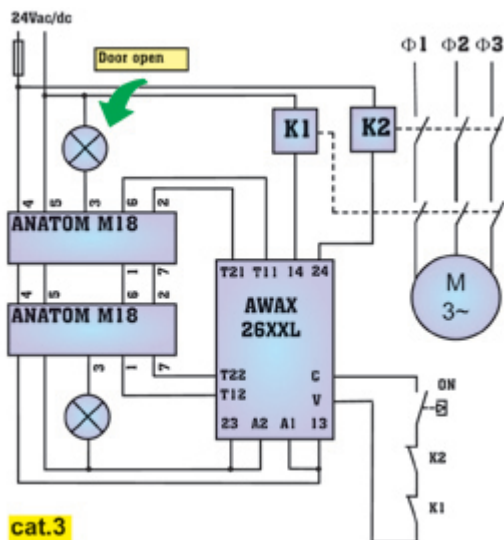
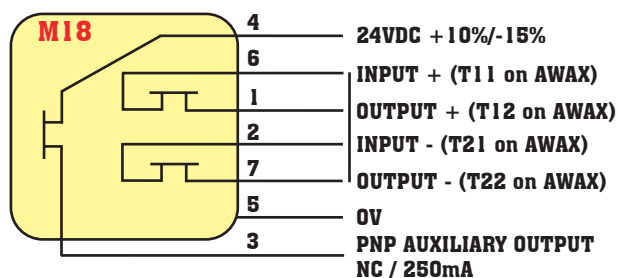
ANATOM M18 with Awax : category 4

ANATOM M18 in series with Awax : category 3

### Dimensions



### Wiring diagram



### Application

Up to 30 switches connected on one AWAX safety module. Robust switch in metal housing. Quick mounting thanks to the connector. Adapted to strong vibrations and high speed machines.

# OPTOPUS DEC

## Non-contact and coded electronic switch

- Suited for small access area
- Decoding by Acotom®2 process
- Misalignment :  $\pm 3$  mm up/down and left/right
- Detection distance/hysteresis : 5 /+2 (mm)
- LED display of switch condition
- Mounting brackets and moulded cable
- Polycarbonate housing
- Protection class IP67
- Temperature -20°C to +60°C
- Unlimited life expectancy (unlimited number of operations)



Available in stainless steel 316L

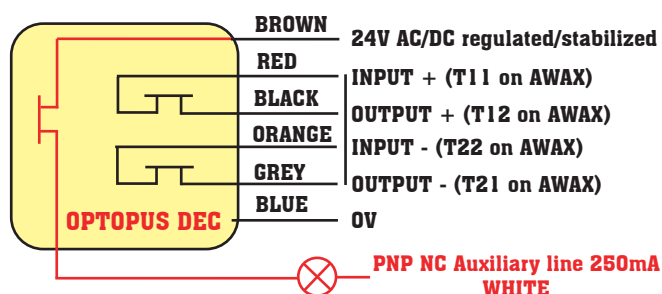
### Safety category

OPTOPUS : EN60947-5-3

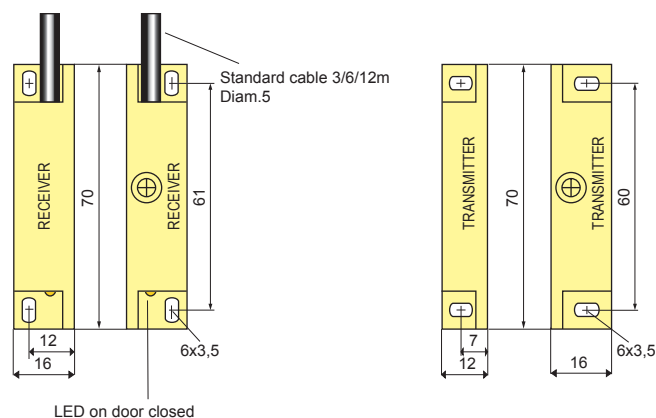
1 OPTOPUS with Awax : category 4

OPTOPUS in series with Awax : category 3

### Wiring diagram

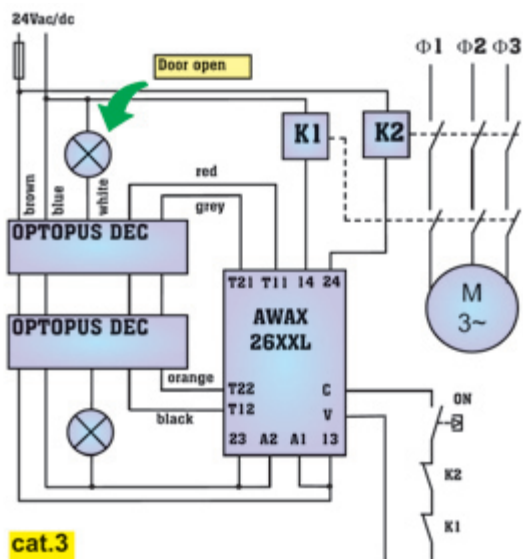


### Dimensions



### Application

Suited for trap doors and manholes. Up to 30 switches in serie with only one AWAX safety module.





# ANATOM 6S-78S-98S

## Non-contact and coded safety switch

- Decoding by Acotom2 process
- Misalignment :  $\pm 7$  mm
- Detection distance/hysteresis : 10 /  $\pm 2$  (mm)
- Auxiliary output for status display
- LED display of switch condition
- Available with M12 connector (ANATOM78SMKT)
- Protection class IP67
- Temperature -20°C to +60°C



### Safety category

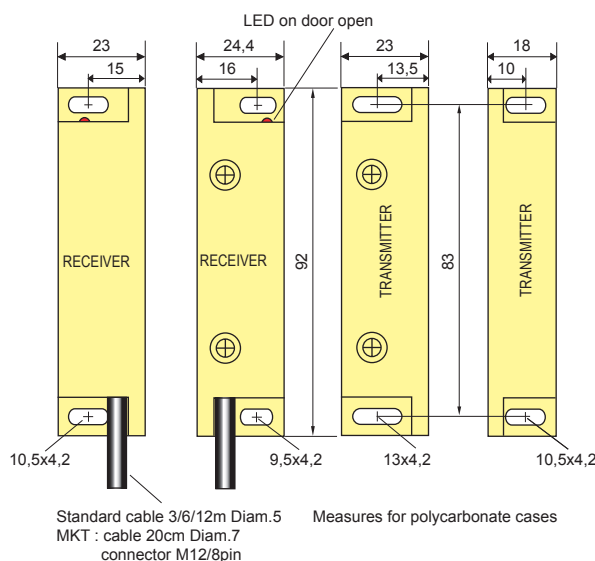
Anatom6S/78S/98S : EN60947-5-3

1 Anatom6S/78S/98S with Awax : category 4

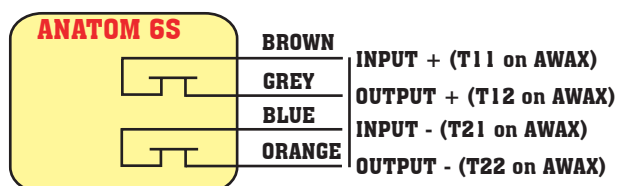
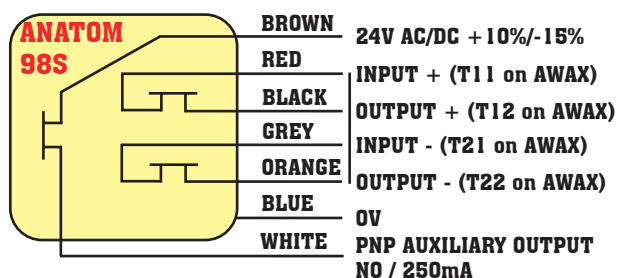
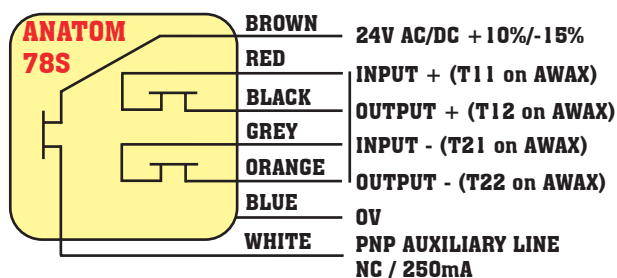
Anatom78S/98S in series with Awax : category 3

Anatom6S in series with Awax : category 2

### Dimensions



### Wiring diagram



### Application

Up to 30 switches (5 max in case of Anatom6S) with one AWAX. Fits to strong vibration and high-speed machines. The auxiliary output is compatible with PLCs.



# ANATOM 78S

**Coded non-contact safety switch in stainless steel for harsh environment**

- Decoding by Acotom®2 process
- Misalignment :  $\pm 7$  mm
- Detection distance/hysteresis : 10 /  $\pm 2$  (mm)
- Auxiliary output for status display
- LED display of switch condition
- Available with M12 connector
- ANATOM78S/INOX/MKT
- Protection class IP69K
- Temperature -20°C to +60°C



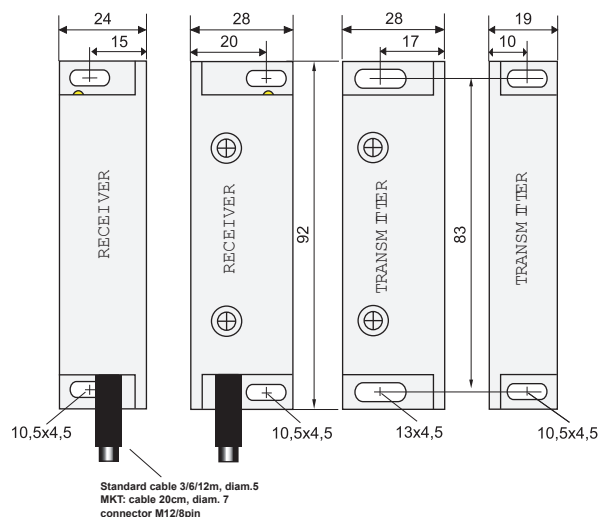
## Safety category

Anatom78S inox : EN60947-5-3

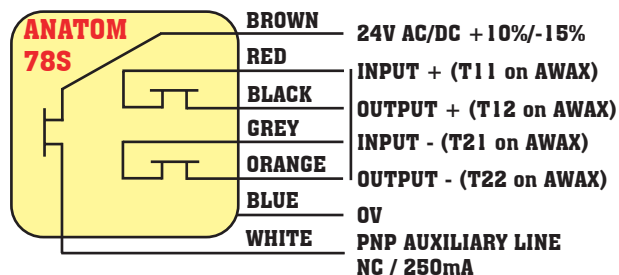
1 Anatom78S/ inox with Awax : category 4

Anatom78S/ inox in series with Awax : category 3

## Dimensions



## Wiring diagram



## Application

Ideal for food industry because of its resistance to chemical cleaning materials. Ideal for machines with vibration.

# TRITHON

## Electronic coded non-contact safety switch adapted to high temperature

- Decoding by Acotom®2 process
- Misalignment :  $\pm 30^\circ$  in rotation
- Detection distance / hysteresis : 9 /  $\pm 2$  (mm)
- Moulded cable
- Auxiliary output for status display
- Stainless steel 316L housing
- Laser marking
- Protection class IP69K
- Temperature  $-20^\circ\text{C}$  to  $+110^\circ\text{C}$
- Unlimited life expectancy (unlimited number of operations)



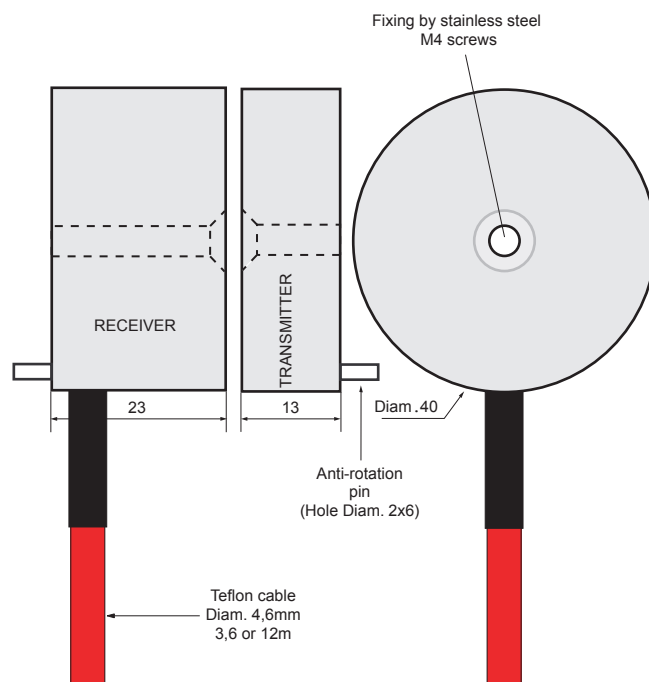
### Safety category

Trithon : EN60947-5-3

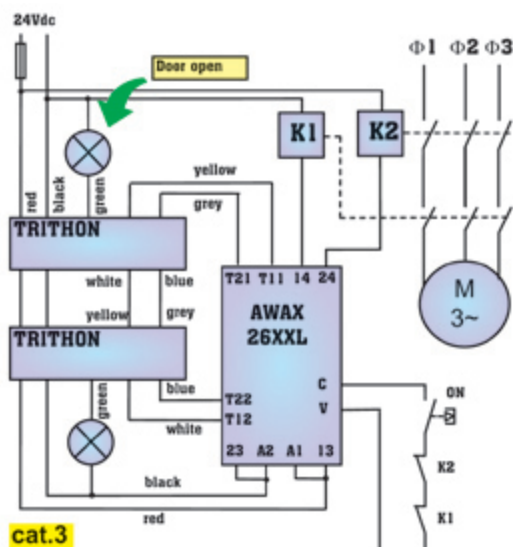
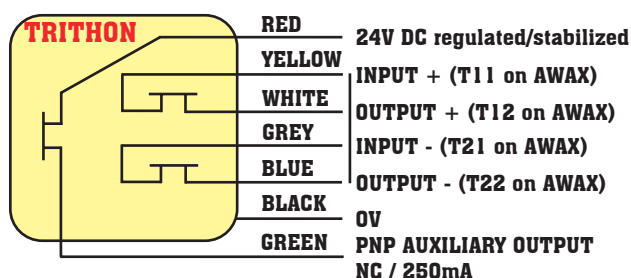
1 Trithon with Awax : category 4 PLe

Trithon in series with Awax : category 3

### Dimensions



### Wiring diagram



### Application

Up to 30 switches with one AWAX module.  
Adapted to high temperatures (sterilisation),  
laser markings. Resists to chlorine and acids,  
may get in touch directly with dairy products.

# EPINUS

## Coded switch with integrated magnetic latch

- Magnetic latch 1, 2, or 4 Kg
- Decoding by Acotom®2 process
- Auxiliary output for status display
- Stainless steel housing 316L
- Laser marking
- Protection class IP69K
- Temperature -20°C to +60°C (EPINUS 4K)
- Temperature -20°C to +90°C (EPINUS 2K)



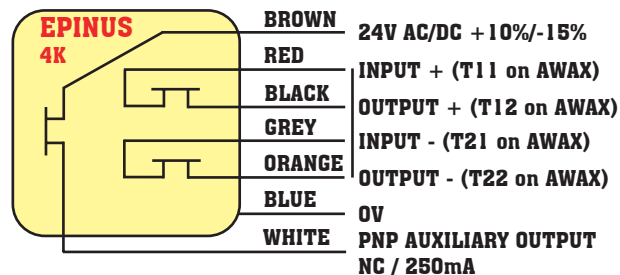
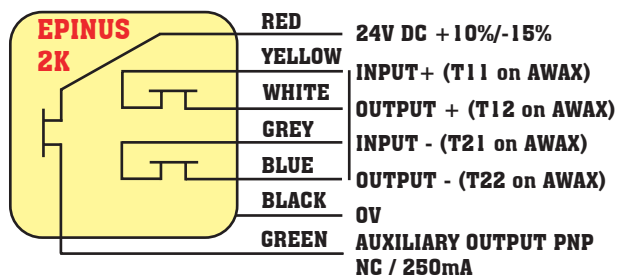
### Safety category

EPINUS : EN60947-5-1/2/3

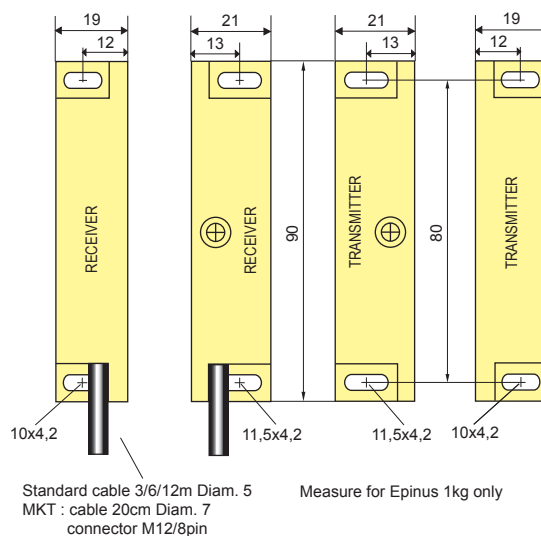
1 EPINUS with Awax : category 4

EPINUS in series with Awax : category 3

### Wiring diagram



### Dimensions



### Application

Designed to keep doors or moving protectors magnetically closed even while vibrating. Thanks to solid state contacts, the long life expectancy is improved.



# RANGE WITH BUILT-IN CONNECTORS FOR EASY AND QUICK WIRING

Operates with Process ACOTOM ® 2 & 3  
Certified TÜV  
Conformity UL/CSA



**Manipulation-free** : Dismantling of the switch is prevented by sticking the screw cover  
- Complies with new standard:  
**NF EN ISO 12100-2**



Without screw cover

The MASSIMOTTO switch can even work through a **6 mm** surface in stainless steel or polycarbonate



With screw cover

Quick and easy fitting to 25 or 45 mm aluminium profile

LED is viewed via a translucent zone  
Screw cover + screw are supplied together  
Suited for demanding cleaning regimes



Other versions



AMX/ ANATOM with M12 connector



# OPTOPUSC M8

## Non-contact and coded safety switch

- Acotom®2 decoding process
- Power supply: 24Vdc -15%/+10% or T11/T21 on AWAX safety module
- Switching distance/hysteresis : 7 /2 mm
- Safety contacts: 2NO 24Vdc/400mA
- Auxiliary contact: 1 PNP 24Vdc /250mA
- Protection class: IP67
- Temperature -20°C to +60°C
- Response time: 500µs



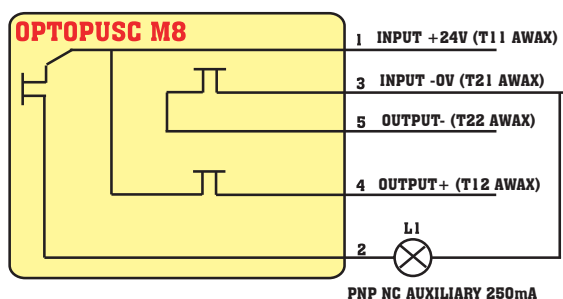
### Safety category

optopusc M8 : EN60947-5-3

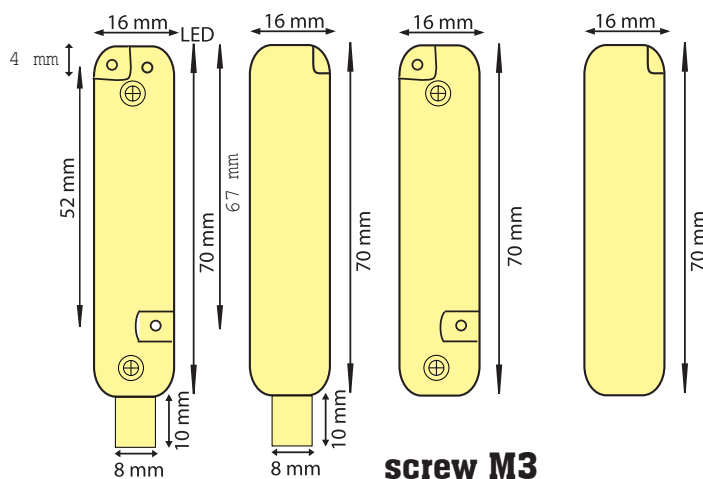
optopusc M8 with Awax : category 4

optopusc M8 in series with Awax : category 2

### Wiring diagram



### Dimensions



### Application

Ideal solution for quick and easy wiring in series for tiny access on machine.

# ANATOM78S SRM M12

**Coded non-contact safety switch with light magnetic latch**

- Acotom2 decoding process
- Power supply: 24Vac/dc -15%/+10% or T11/T21 of AWAX
- Switching distance/hysteresis : 8 /3 mm
- Auxiliary contact : NC PNP(supply)/250mA
- Protection class IP67
- Temperature -20°C to +60°C
- Response time: 500µs
- Holding force: 500g



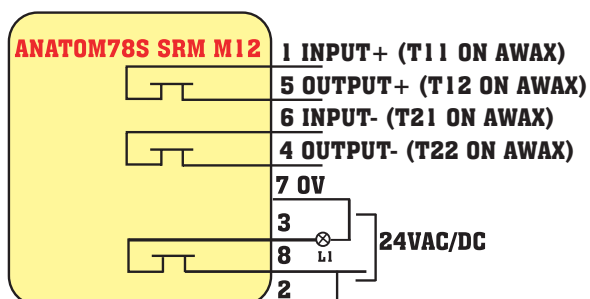
## Safety category

ANATOM78S SRM M12 : EN60947-5-3

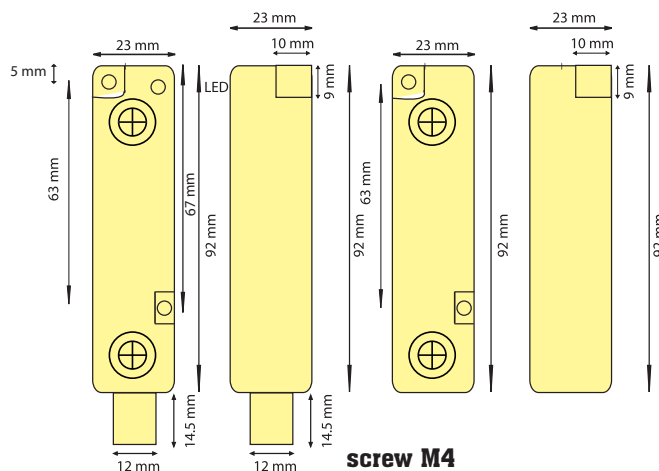
ANATOM78S SRM M12 sur Awax : category 4

ANATOM78S SRM M12 in series with Awax : category 3

## Wiring diagram



## Dimensions



## Advice

Ideal for quick wiring.

# ANATOM78S SES M12

## Coded non-contact safety switch with automatic ejection

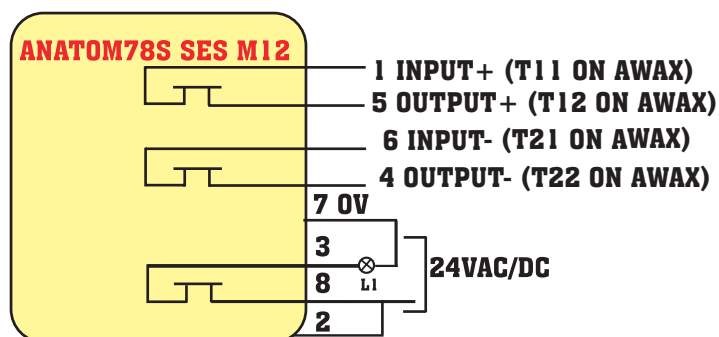
- Acotom®2 decoding process
- Power supply: 24Vac/dc -15%/+10% or T11/T21 of AWAX
- Detection distance/hysteresis : 8/ 3mm
- Auxiliary contact : NC PNP (supply)/ 250mA
- Protection class IP67
- Temperature -20°C to +60°C
- Response time: 500µs



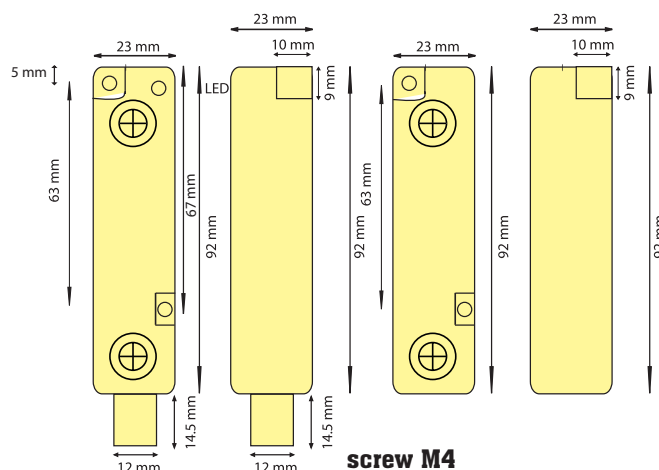
### Safety category

ANATOM78S SES M12 : EN60947-5-3  
 ANATOM78S SES M12 with AWAX : category 4  
 ANATOM78S SES M12 in series with AWAX:  
 category 3

### Wiring diagram



### Dimensions



### Application

Thanks to the magnetic rejection, the two parts can not touch each other when the door closes.



# ANATOM78S M12

## Coded non-contact safety switch

- ➔ **Acotom®2 decoding process**
- ➔ **Power supply: 24Vac/dc -15%/+10% or T11/T21 of AWAX**
- ➔ **Switching distance/hysteresis : 8 /3 mm**
- ➔ **Auxiliary contact : NC PNP(supply)/250mA**
- ➔ **Protection class IP67**
- ➔ **Temperature -20°C to +60°C**
- ➔ **Response time: 500µs**



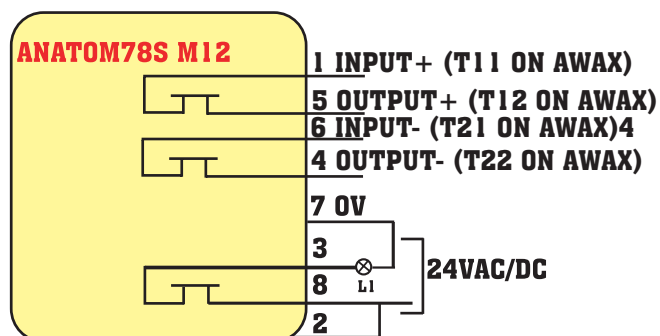
## Safety category

**ANATOM78S M12 : EN60947-5-3**

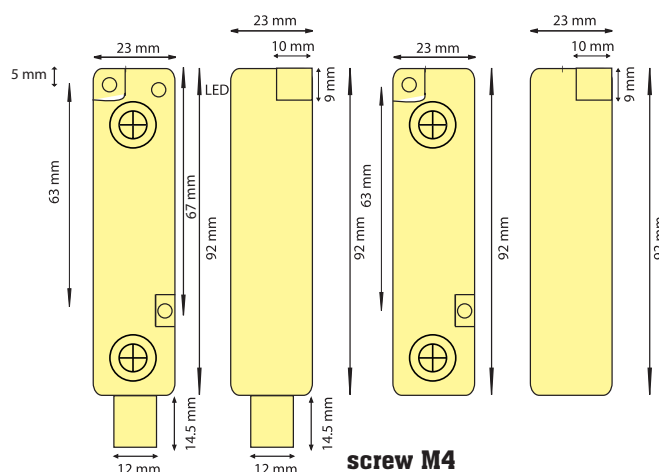
**1 ANATOM78S M12 with Amax : category 4**

**ANATOM78S M12 in series with Awax :  
category 3**

## Wiring diagram



## Dimensions



## Application

**This switch is similar to the ANATOM78S but offers an integrated M12 connector.**

# MASSIMOTTO ANA78S.2 M12

## Coded non-contact safety switch

- Acotom®2 decoding process
- Power supply: 24Vac/dc -15%/+10% or T11/T21 of AWAX
- Switching distance/hysteresis : 8 /3 mm
- Safety contacts: 2 NO 24Vdc/500mA
- Auxiliary contact: 1 PNP NC 24Vac/dc /250mA
- Protection class IP67
- Temperature -20°C / +60°C
- Response time: 500µs



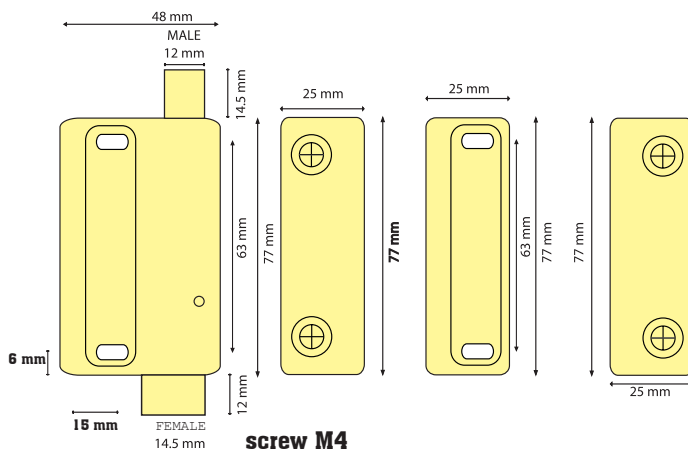
### Safety category

MASSIMOTTO ANA78S.2 M12 : EN60947-5-3

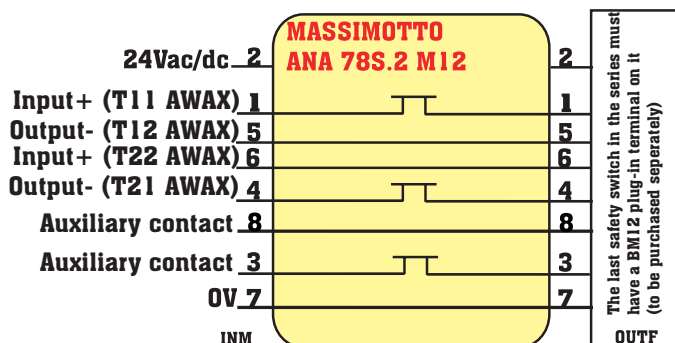
MASSIMOTTO ANA78S.2 M12 sur Awax : cat. 4

MASSIMOTTO ANA78S.2 M12 in series with  
Awax : cat.3

### Dimensions



### Wiring diagram



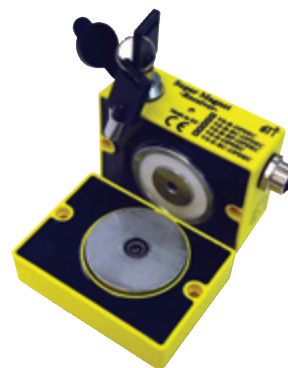
### Application

An ideal and economical solution for wiring in series on machine with more than 4 doors

# SUPER MAGNET

## Non-contact magnetic locking with embedded coded safety switch

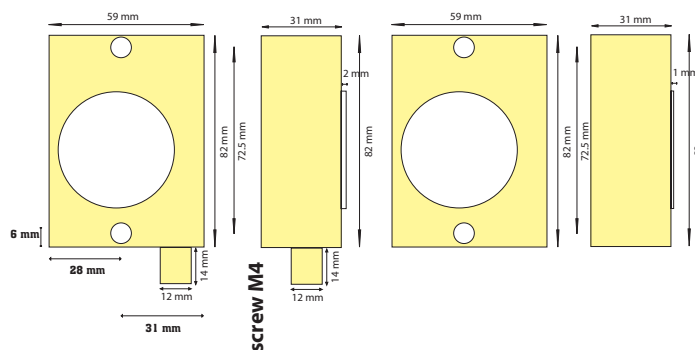
- R version : - Locking when energized
  - Latch force 50daN (dc)
  - Latch force 10daN (ac)
- E version : - Locking when un-energized
  - Latch force 30daN
- Detection of door's opening by ACOTOM®2 process
- 2 static contacts monitored by AWAX
- 1 auxiliary output : compatible with PLC
- Embedded M12 connector
- Protection class: IP65



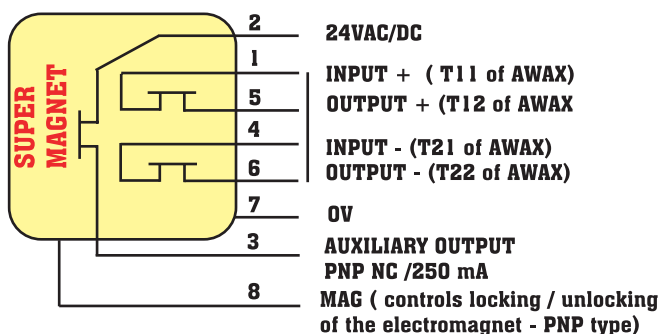
### Safety category

SUPER MAGNET : EN60947-5-3  
Cat 4 PLe acc to ISO13849-1

### Dimensions



### Wiring diagram



### References

- E Version : SM1-OP
- R Version : VSR BC OP DEC  
VSR OP DEC

### Option

- OP DEC : contact de sécurité
- BC : clef codé prisonnière ou libre autorisant l'entrée / sortie (APPLICATION TRANSFERT DE CLE)
- On R version :
  - OPDEC : Safety outputs
  - BC : Key control

### Application

Two functions in one item holding of guard-doors and control of the opening with the ACOTOM® decoding process.

# SUPERMAGNET 2

**Verrouillage magnétique des portes avec contrôle de position de sécurité**



Un verrouillage puissant avec contrôle de sécurité intégré pour les protecteurs mobiles et les portes conforme aux nouvelles normes internationales.

SUPERMAGNET 2 possède une force de maintien de 100daN (type R) ou 60 daN (type E) son boîtier en INOX 316L avec gravé laser répond aux exigences sévères.

**AVANTAGES** :- Compensation des jeux de portes par articulation des plaques polaires  
 - Câblage par simple connecteur ou double connecteur M12 pour montage en série pour réduire le coût de câblage en diminuant fortement le temps d'installation  
 - Fixation rapide par 2 vis  
 - Détection par procédé ACOTOM®2 et 2 sorties contacts disponibles

**Conformité** : - EN 60947-5-3

- NFS 61-937

- IP 56 selon EN 60529

**Alimentation** : 24Vac/dc +/-10% (fournit par le boîtier AWAX pour une utilisation en sécurité machine)

**Consommation** : < 500mA ( ventouses activées )

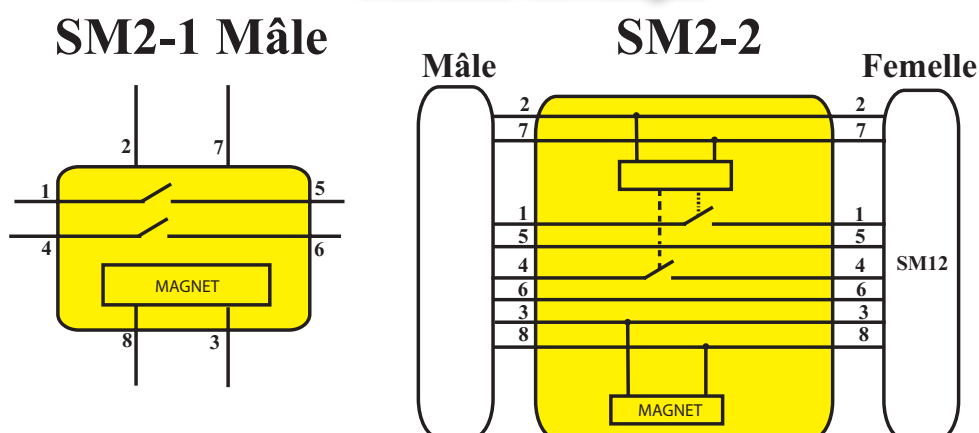
**Lignes de sécurité** : 2xNO 24V ac/dc 400mA max

**Temps de réponse** : 1 ms (détection porte ouvertes)

**Température** : -20°C / +60°C

**Force ventouse (Vdc)** : 100 daN type R / 60 daN type E

## Schéma électrique





# AMXR / XORF

## Safety switch

### New RFID-coded safety switches

#### AMXR (stand alone) XORF (non stand alone)

The new generation of safety switches offered by Comitronic takes advantage of the RFID technology to improve your safety level and operations modes, thanks to a very large switching distance and misalignment.

used to control the position of movable guard doors on machines, they are state-of-art of the expertise of Bti – Comitronic in the machine safety field. They provide a high level of tampper resistance where safety is required. Unlike the other Comitronic coded magnetic switches, the RFID switches can be used only with both identified receiver and transmitter.

High operation safety, unique code for each transmitter (16 million different codes)

rugged PA6 housing +UL V0 resistant to cutting oil and aggressive liquids (detergents)

cable resistant to cutting oil as per NFPA 79 and UDE0472-803 ,  
UL444 CMR  
(3,6 or 12m cable length)

immunity to metallic dusts (switch not magnetically actuated)

3 years warranty  
MTTFd 10 years  
DC High

2a/48v switching power for stand alone version

LED status indicator

large detection distance  
(from 20 to 25mm)

Self-learning system: only one emitter recognized, high safety level



The range of RFID safety switches of BTI-Comitronic is available in the main qualities, stand alone and non stand alone. This is the ideal solution, thanks to its digital coding key.

Using a special encoding, based on self learning system, our switches are working only by pairs, so you can not cheat the receiver with an other transmitter. Each transmitter is uniquely coded (16 millions codes available) and once it is registered by the reading head, you can not simply change it.

Its waterproofness allows it to be submerged in up to one meter. The housing also resists to cutting oil projections and aggressive detergents. It does not use any magnets, therefore it is completely immune to any metallic dust which could stick and provide an excellent solution in the steel industry.

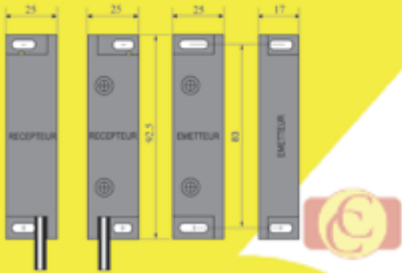
Designed and produced grace to our research & development investments, we can offer high quality products.

- The RFID range can work up to:
- 50 millions mechanical actions
  - up to 3 millions actions to maximal intensity (2A)
  - MTTFd 10 years and DC High
  - and is warrantied 3 years

| AMX-R stand alone  | XORF Non Stand alone  |
|--|---|
| Power Supply : 24Vdc<br>Power Consumption : <50mA<br><br>Safety lines : 2 x NO 2A – 48 V<br>Aux Output : 1x NF PNP 400mA<br><br>Sensing distance: 20 mm +/-3<br>Misalignment : 15mm +/-2<br><br>Category PL3d according to ISO13849-1, ISO 18000-2, VDE 0472-803,NFPA79, ULVO self-extinguishable.<br>Conformity EN 1672-2:2005. | Power Supply : 12Vdc/36Vdc or 12Vac/27Vac<br>Power Consumption : <30mA<br><br>Safety lines : 2 x NO 400mA – 40Vac/dc<br>Aux Output :1x NF PNP<br>Up to 40 switches in serie on Awax safety relay<br><br>Sensing distance: 25 mm +/-3<br>Misalignment : 15mm +/-2<br><br>Category PL3e acc. to ISO13849-1 with one or several switches connected on an AWAX and EN 61947-5-3. ISO 18000-2, VDE 0472-803, NFPA79, ULVO self-extinguishable.<br>Conformity EN1672- 2:2005. |

If the transmitter is broken and need to be replaced, you can either:

- send it to our after-sales service to extract the code and transfer it into a new transmitter,
- or buy the eraser card (sold separately, store carefully) and do it by yourself, considering the safety risks.



| Dimensions and environmental constraints       |
|--|
| Temperature : -25°C to +70°C                   |
| Protection class : IP67                        |
| Weight:  |
| Transmitter = 77g                              |
| Receiver = 210g                                |
| Minimal bending radius of the cable = ray 43mm |

# NOTE



# ACCESSORIES

## Components / cables

**BH4**



4 Stainless steel screws M4x20 with tamper-proof head

**OBH4**



4 Stainless steel screws M4x20 with tamper-proof head and 1 screwdriver

**RX4**



4 Stainless steel washers for BTI switches

**OM5 (orange) / GM5 (grey)**



Handle + Stainless steel 316L back plate for Epinus 4K and Boster

**Cable with connector M12 and M8**



CABLE WITH M12 and M8 CONNECTOR

- M12: - FKT (cable with female connector)
  - MKT (cable with male connector)
  - FMKT (cable with male and female connectors)
  - M8: - FKT (cable with female connector)
- Cable available in 2, 5 and 10 meters.

## Magnetic Latching

**2 kgs**



**300 g**

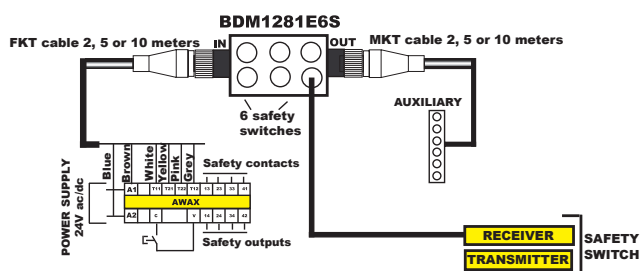
Ref : LM2316SRE = 2 Kgs  
LM1777RE = 300 Grs



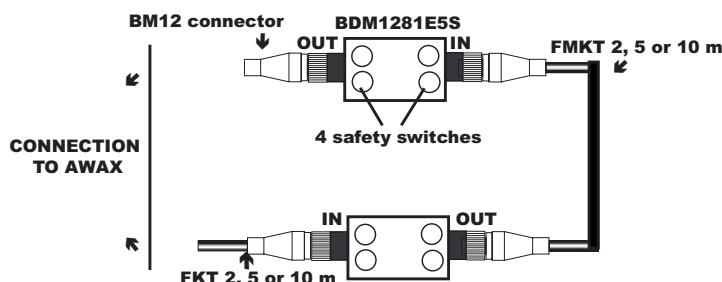
# ACCESSORIES

## JUNCTION BOXES

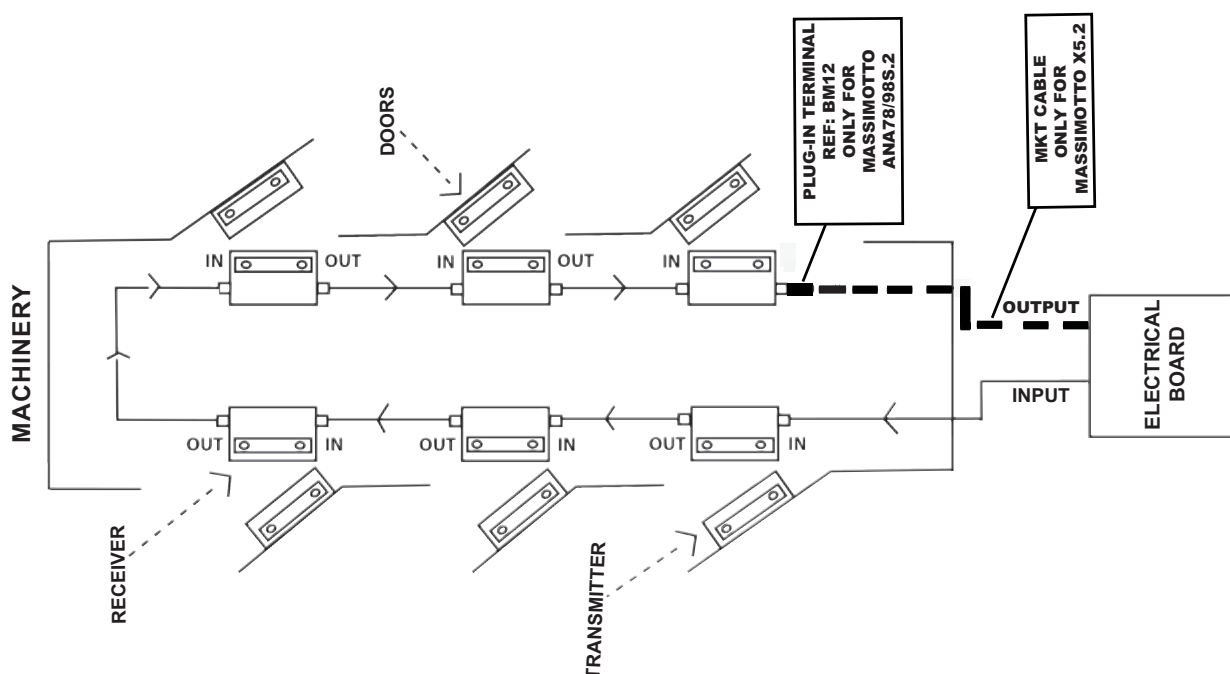
This module allows you to wire up to 6 ANATOM78SM12 in serie and to retrieve the auxiliary out put of each safety switch.



This module allows you to wire up to 32 ANATOM78SM12 in serie thanks to 8 junction boxes.



## The Massimotto with double connectors

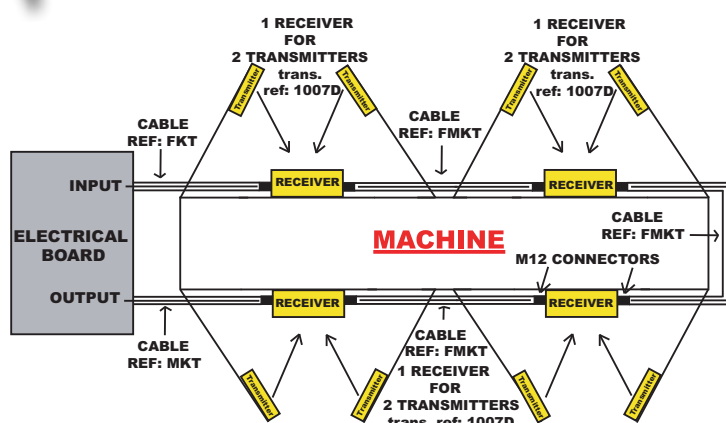


# MASSIMOTTO DOUBLE TRANSMITTERS

Massimotto safety switch with double transmitters for double doors

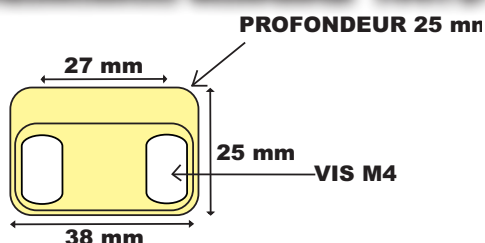
## 1 SAFETY SWITCH WITH DOUBLE TRANSMITTERS AND DOUBLE CONNECTORS

- 1 récepteur
- 2 émetteurs
- Pour 7 euro de plus
- Sachez faire la différence
- Simplifiez votre montage
- Simplifiez votre câblage
- = Coût réduit



Horizontal misalignment +/- 7 mm

Dimension émetteur 1007D x 2 One switch with double transmitter :



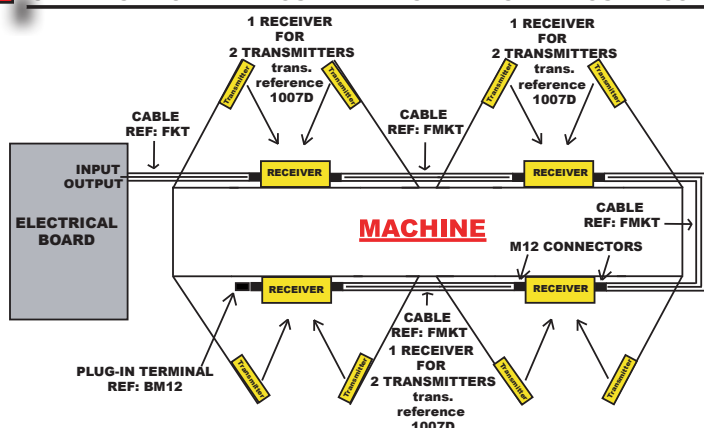
- MASSIMOTTO X5 M12 AR
- MASSIMOTTO X5 M12 SR
- MASSIMOTTO X5.2 M12 AR
- MASSIMOTTO X5.2 M12 SR

**1 Schéma Autonome**

- MASSIMOTTO ANA78S.2 M12
- MASSIMOTTO ANA98S.2 M12

**2 Schéma Non-autonome**

## 2 SAFETY SWITCH WITH DOUBLE TRANSMITTERS AND DOUBLE CONNECTORS



# **INFO - INFO - INFO**

## **NF EN 50155 Standard**

### **Rail and train**

The non-contact coded safety switches such as ANATOM78S/AMX5 comply to the differentials of the EN 50155 standard. They also comply with the UL94VO with UL/TÜV certifications.

## **NOTE**



# RISK ASSESSMENT

## Our experiences



Chemical / petrochemical industry  
BTI is certified INERIS 08ATEXQ404



## Our technological know how to your disposition

Founded in 1988 in the machine safety field.

BTI is the designer of the first multicoded, non contact and stand-alone safety switch with the original ACOTOM Process. Since 1993, Bti is offering you his collaboration, his expertise and engineering to:

- Determine and assess the risks of your machines
- Define together the risk assessment acc. to ISO 14121.
- Find together the best solution, the products, and the machines best practices.



Agrofood industry/pharmaceuticals/cosmetics  
BTI produces 316L St. Steel products



BTI has a worldwide network of distributors.  
BTI R&D designs some products to meet your needs in our factory in Marne la vallée

Choose the right partner

COMITRONIC

34 Allée du closeau

ZI Nord des richardets

F-93160 Noisy Le Grand

Tel : 0033.1.43.03.03.03

Fax : 0033.1.43.04.62.22

E-mail : [export@comitronic.net](mailto:export@comitronic.net)

<http://www.comitronic.net>



The traceability is mandatory to fulfill the safety standards requirements

 **RoHS**  
Compliant

**TÜV**

