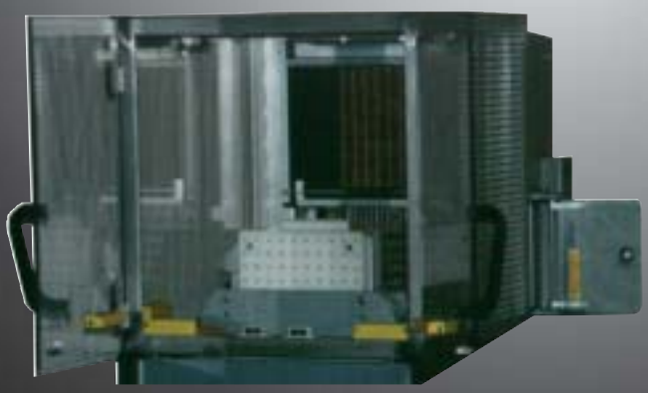
COMITRONIC

SAFETY



Our expertise
Machine safety

CATALOGUE 2007-2008

COMITRONIC

SALES

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 responsability are taken charge by the purchaser at the moment of goods collection, even in case of Ex-work. The goods may be insured only on the express request of the purchaser at his cost. The purchaser should verify the goods after receiving themand 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

450 Euro.

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 responsability 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 responsability 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 considerated 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.

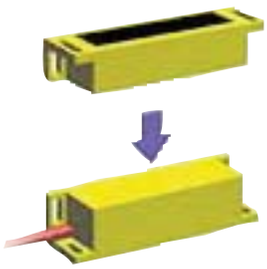
COMITRONIC

GENERAL INFORMATION

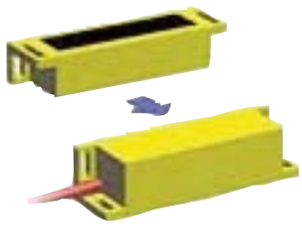
A RELIABLE TECHNOLOGY

Since 1981 COMITRONIC is one of market leaders in safety.
The company has always been ahead of its competitors by providing major technological innovations, including standalone non-contact safety switches.
COMITRONIC has been growing fastly, increasing its sales by 30% a year.
Its world-wide distribution network composed of around 40 partners allows us to provide full technical support and stock worldwide: Europe, North America, Asia...

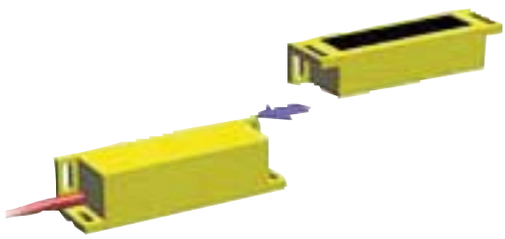
HIGH-TECH NON CONTACT SAFETY SWITCH



8 mm



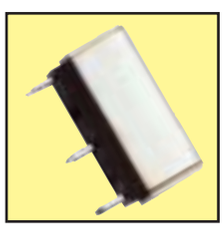
10 mm



7 mm

Armoured relays with linked contacts

More than 3 500 000 operations at 3A



High switching capacity, long life expectancy, resistant to magnetic fields

COMITRONIC

FROM THE EUROPEAN STANDARDS TO THE INTERNATIONAL STANDARDS

STANDARDS FOR SAFETY PRODUCTS

EN 292 (ISO 12100 , part 1 and 2):
ISO 12100-1:2003 defines the basic terminology and the methodology used for the machine safety.
The information inside this standard are made for the conception.

EN 60204-1 (CEI 60204-1):
The application of this standard is for the electrical and electronic devices of both single machine and a group of machines working together. It defines the electrical safety.

EN 1088 (ISO 14119):
This standard defines the principles to be applied to the conception of locking and interlocking devices.

EN 954-1 (ISO 13849-1):
This standard defines five safety categories for the control devices allocated to safety tasks on the machine. It defines elements to be able to comply with the demands of the standard 89/392/CEE.

EN 574 :
This standards defines the safety demands for a two-hand controller and the recommended combinations of functional characteristics for three kinds of commands.

It defines neither the kind of command which should be used with a specific application, nor the distance between the two-hand controller and the dangerous area.

It indicates how to avoid cheating, but also explains the results of defaults and the methods to estimate a two-hand controller using a progammable logic controller.

EN 418 (ISO 13850):
This international standard specifies the functional demands and the conception principles for emergency stop equipment, regardless the type of energy used to control the command. It is applied to all the machines except :
- the machines for which using an emergency stop device wouldn't reduce the risk
- hand-held machines and hand-guided machines

GENERAL MACHINE SAFETY STANDARDS

EN 294 (ISO 13852):
Distance of safety for avoiding dangerous areas with the upper body.

EN811 (ISO 13853):
Distance of safety for avoiding dangerous areas with the lower body.

EN349 (ISO 13854):
The minimum distance to avoid crushing of the human body's parts.

EN1050 (ISO 14121):
Principles for the risk assessment.

EN999 (ISO 13855):
Positioning of the protection devices in comparison to the speed of approach of the human body's parts.

FROM EN954-1 TO ISO 13849-1

The new standard EN ISO 13849-1 adds to the present EN954-1 the specific conditions for programmable electronic systems including software when used for the safety. It also refers to EN1050, EN61508-4 and EN ISO 12100-1:2003.

THE RISK

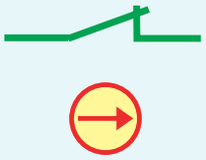
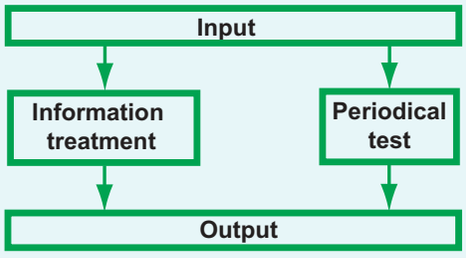
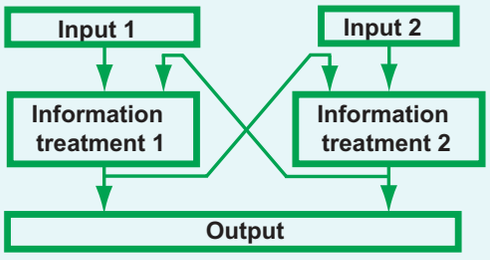
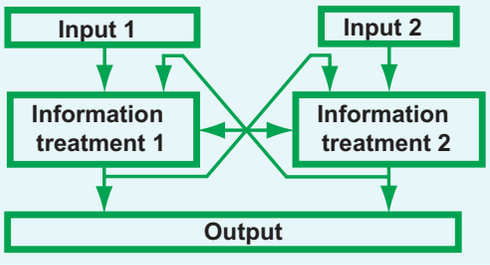
HOW TO CHOOSE THE SAFETY PRODUCT

3.ESTIMATION OF THE RISK

Categories	Principles	Summary of requirements	System behaviour
B	Selection of components	The components are in accordance with the safety standards.	The occurrence of a fault can lead to the loss of the safety function.
1		Same as category B but well-tried components and well-tried safety principles must be used.	The occurrence of a fault can lead to the loss of the safety function but the probability is lower than B.
2	Structure of the safety	Same as category 1 but the safety function must be checked at suitable time intervals by the machine control system.	The occurrence of a fault can lead to the loss of the safety function but the fault is detected to each control.
3		Same as category 1 but a single fault does not lead to the loss of the safety function.	The safety function is guaran--teed except in case of accumulation of undetected faults.
4		Same as category 1 but a single fault does not lead to the loss of the safety function. This single fault should be detected during or before the next demand upon the safety function. An accumulation of faults does not lead to the loss of the safety function.	The safety function is always performed.

THE RISK

4. OUR ANSWER

Synoptic of the safety function	Example of components
	* 2SSR24V, 2SSR24BX, 3SSR24V, 4SSR24BX, 5SSR24BX, 7SSR24V, 8SSR120V, OPTO2S, OPTO3SCM8, OPTO4SCM8 * Mechanical safety switches * Magnetic switches with safety soft strip (reed contact) in association with its safety module
	* Several ANATOM6S with an AWAX * Mechanical safety switches in association with its safety module * Magnetic switches with safety soft strip (reed contact) in association with its safety module
	* One or several AMX3, AMX4, AMX5, BOSTER * One or several VIGIL SXR * Several ANATOM78S, EPINUS, TRITHON, OPTOPUS, M18, Supermagnet, MASSIMOTTO 78S/98S in association with an AWAX safety module * Several mechanical or magnetic switches (limited quantity) with safety soft strip (reed contact) in association with its safety module
	* One or several AMX4, AMX5, BOSTER, MASSIMOTTO X5 in series with a safety module * One or several VIGIL SXRS * One or several VIGIL SXR in series with a safety module * A mechanical or magnetic switch with safety soft strip (reed contact) in association with its safety module

COMITRONIC

SUMMARY

COMITRONIC

SUMMARY

COMITRONIC

SUMMARY

COMITRONIC

THE ACCESS CONTROL

3 years warranty

THE STAND-ALONE SAFETY SWITCH

HOW TO PROTECT YOUR ACCESS?

➔Mechanical switches

We can readily identify the problems and disadvantages with using mechanical switches. The most obvious are:
- high total costs (including mounting costs)
- permissible misalignmentis very small
- not suitable for food industry.

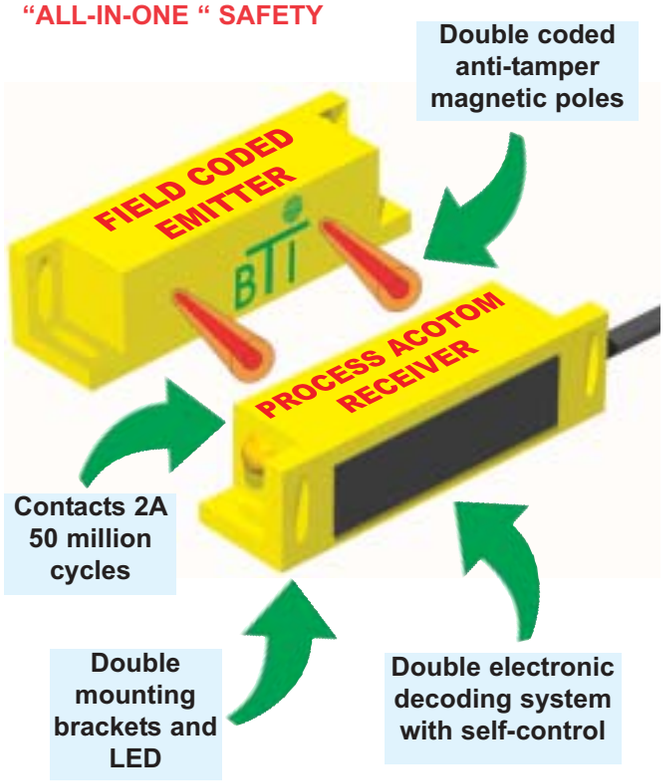
➔ Magnetic switches

The reed contact system seemed to be improved compared to mechanical switches, but new problems have appeared:
- This switch can be easily cheated by means of a simple magnet or a "horseshoe" magnet
- High hysteresis (10mm)
- Perturbation by magnetic poles
- Activation of contacts delayed
- Limited number of switches in series (generally six) as the LED does not work
- Auxiliary line and LED do not indicate the state of switch

➔ Ferro-resonant switch
- Instability over time
- Limited coding power

AMX ELECTROMECHANICAL SWITCH

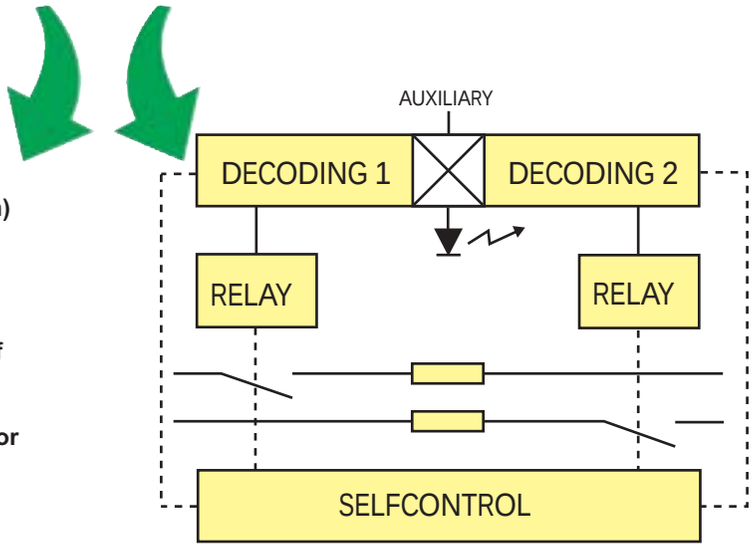
"ALL-IN-ONE " SAFETY



And here comes our technology thanks to ACOTOM3 process

➔Process ACOTOM®3:

- High coding power with dual channel
- Multi- or simple coding
- Integrated self-control system (no external safety module)
- 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 connection in series
- LED and auxiliary line showing the exact state of the coding system
- Polycarbonate version for common use
- 316L stainless steel version with laser marking for harsh use
- Version for high temperature +110°C
- Version with built-in or transported connector
- Version with a removed key or locked key
- Miniature version for the manholes.

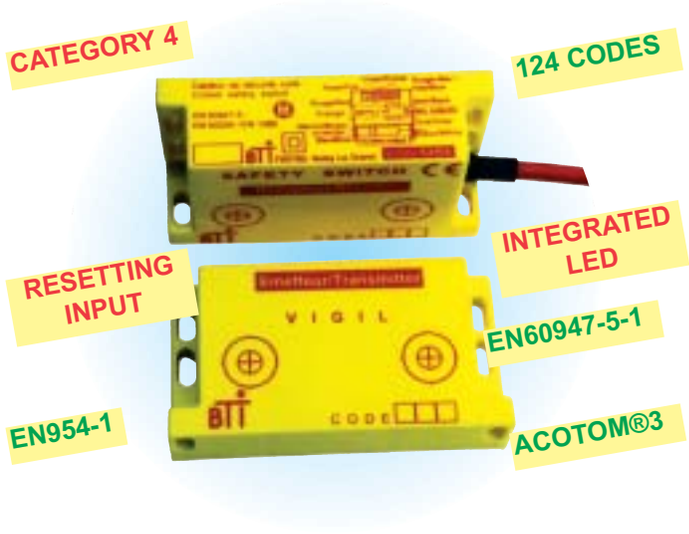


FURTIF VIGIL

STAND-ALONE without safety module

NON CONTACT MULTICODED SWITCH : TOTAL SAFETY IN CATEGORY 4

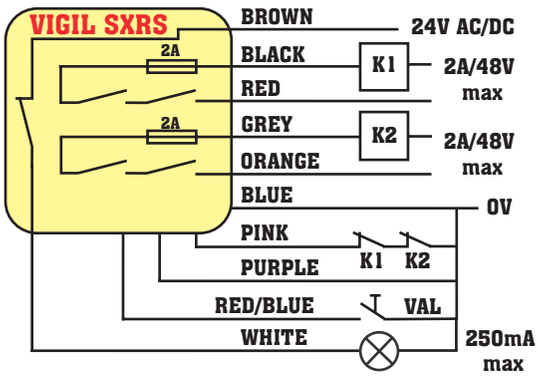
- Automatic, integrated self-checking
- 124 codes on request (ref:001-124)
- Detecting distance/hysteresis/misalignment: 10 /+2 /±9 mm
- 2 NO 2A/48V + 1NC 24V/250mA
- LED indication of switch condition
- Monitored manual reset (ref+SXRS)
- Test loop
- Mounting brackets and moulded cable
- Polycarbonate housing
- Temperature -20°C to +60°C / Waterproof IP67



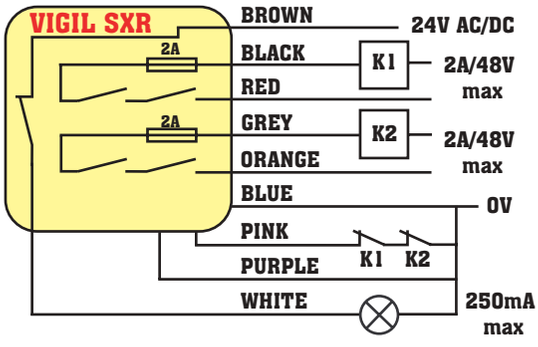
SAFETY CATEGORY

VIGIL SXRS : category 4* according to EN 954-1
VIGIL SXR : category 3* according to EN 954-1
*regardless of number of switches in series

WIRING DIAGRAM

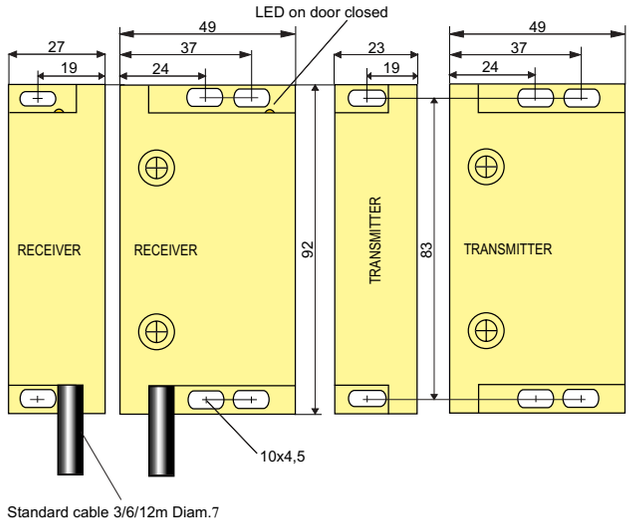


cat.4

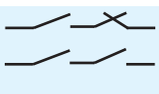


cat.3

DIMENSIONS



Vigil in case of failure



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

ADVICE

No place left in your electrical board? This switch does not need an external safety module to reach the highest safety level (detects even an accumulation of faults)

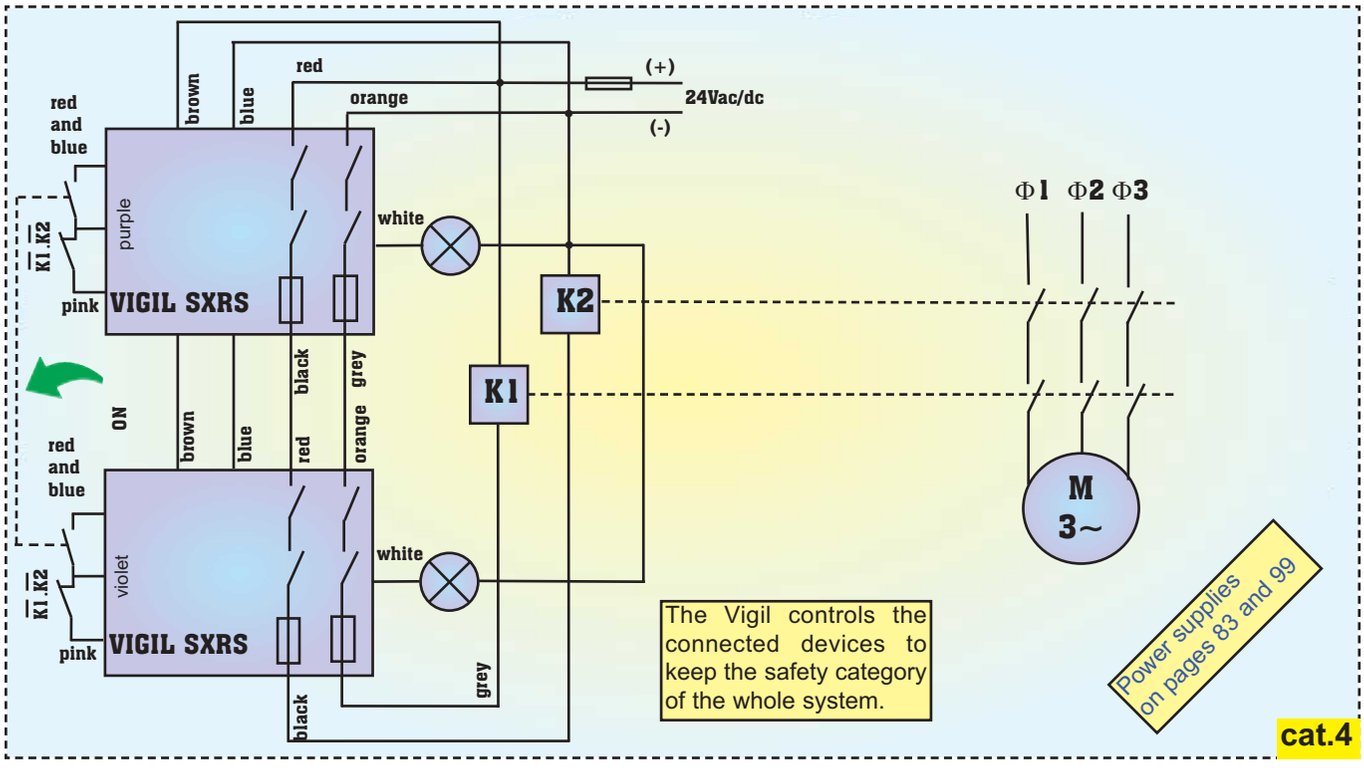
COMITRONIC

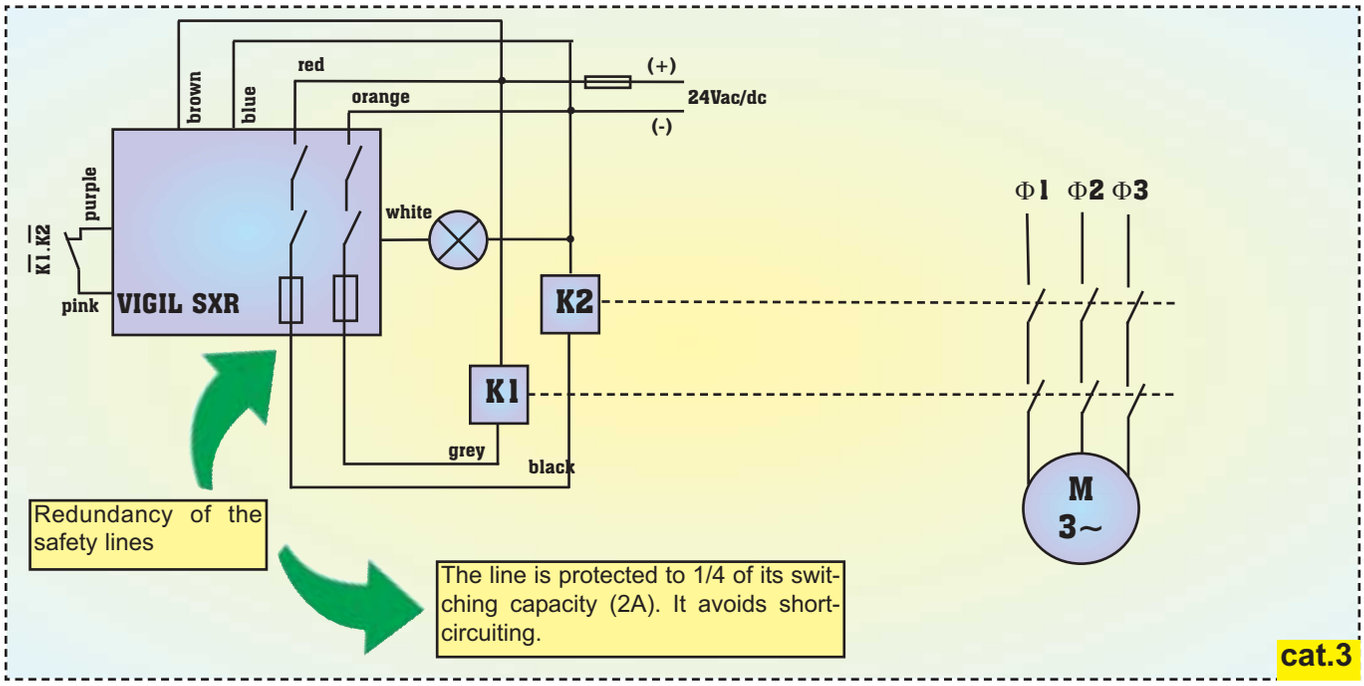
DIAGRAMS

APPLICATION DIAGRAMS

2 ACCESSES TO BE CONTROLLED IN CAT.4

CAT. 4 OF POWER PARTS





FURTIF AMX

STAND-ALONE without safety module

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

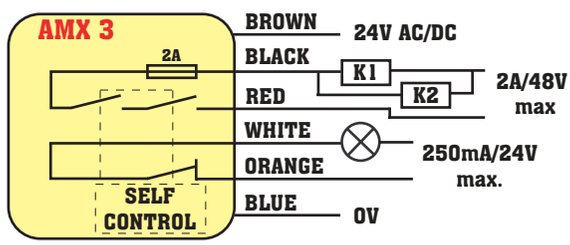
CATEGORY 3 · LED indication · ACOTOM®3

EN954-1 · EN60947-5-1

SAFETY CATEGORY

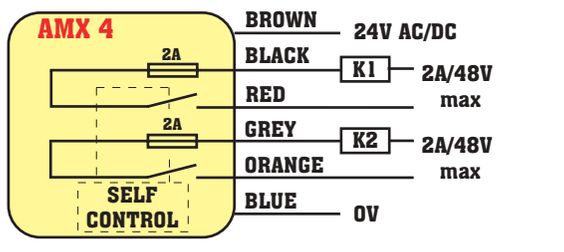
AMX3 / AMX4 / AMX5: category 3* according to EN954-1
AMX4/AMX5 in category 4* with a safety module.
* Regardless of number of switches in series.

WIRING DIAGRAM



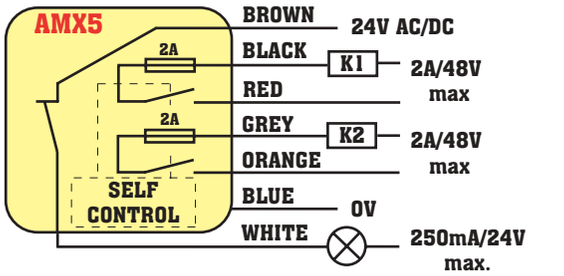
TUV and UL/CSA

cat.3



UL/CSA

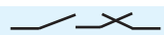
cat.3



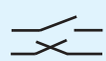
TUV and UL/CSA

cat.3

AMX 3 in case of failure

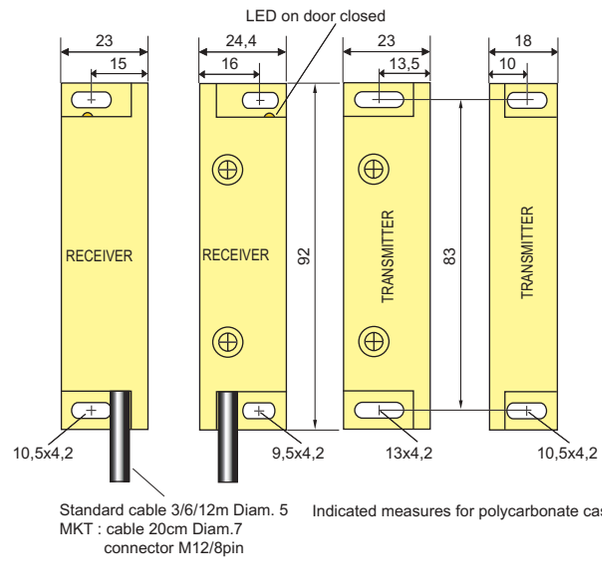


AMX 4/5 in case of failure



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

DIMENSIONS



Standard cable 3/6/12m Diam. 5
MKT : cable 20cm Diam.7
connector M12/8pin

Indicated measures for polycarbonate cases

PIN DETAILS FOR MKT CONNECTOR

FRONT VIEW

AMX3/MKT

1 white: NO1 5 grey: 0V
2 brown: nc 6 pink: NO1
3 blue: NC1 7 green: NC1
4 yellow: +24V 8 red: nc
(nc : non connected)

FRONT VIEW

AMX5/MKT

1 white: NO2 5 grey: 0V
2 brown: NO1 6 pink: NO2
3 green: AUX 7 blue: NO1
4 yellow: +24v 8 red: nc
(nc : non connected)

ADVICE

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

FURTIF AMX / INOX

.STAND-ALONE without safety module

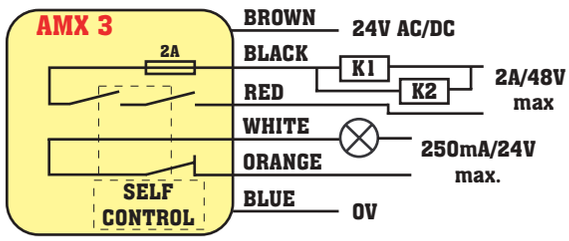
NON-CONTACT AND CODED SAFETY SWITCH IN STAINLESS STEEL : CATEGORY 3 FOR HARD ENVIRONMENT

- 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 connector (AMX3/ AMX5)
- Stainless steel housing
- Available with connector
- Protection class IP67
- Temperature -20°C to +60°C

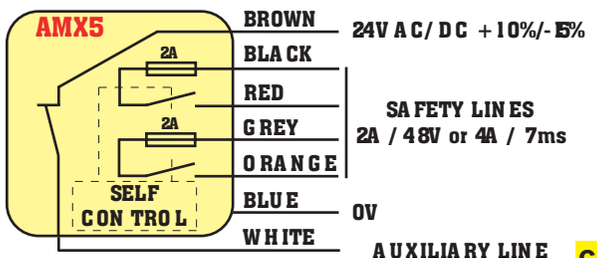
SAFETY CATEGORY

AMX3 / AMX5 : category 3* according to EN954-1
AMX5 : category 4* with safety module
*Regardless of number of switches in series

WIRING DIAGRAM

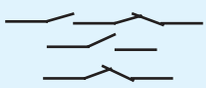


cat.3



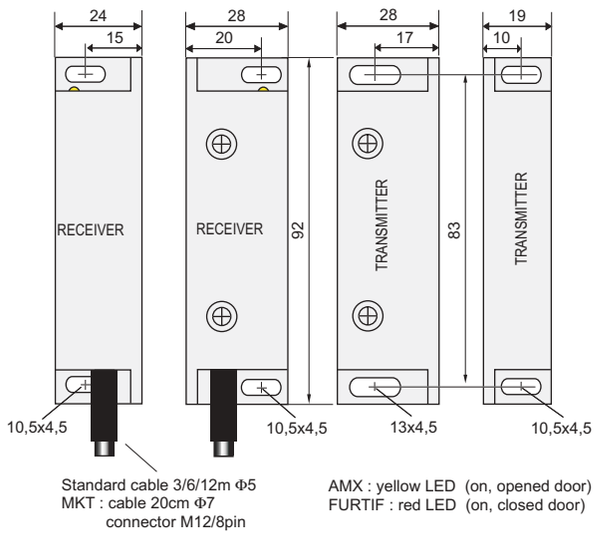
cat.3

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.

DIMENSIONS



Standard cable 3/6/12m Φ5
MKT : cable 20cm Φ7
connector M12/8pin

AMX : yellow LED (on, opened door)
FURTIF : red LED (on, closed door)

PIN DETAILS

FRONT VIEW

AMX3/MKT

1 white: NO1 5 grey: 0V
2 brown: nc 6 pink: NO1
3 blue: NC1 7 green: NC1
4 yellow: +24V 8 red: nc
(nc : non connected)

FRONT VIEW

AMX5/MKT

1 white: NO2 5 grey: 0V
2 brown: NO1 6 pink: NO2
3 green: AUX 7 blue: NO1
4 yellow: +24v 8 red: nc
(nc : non connected)

APPLICATION

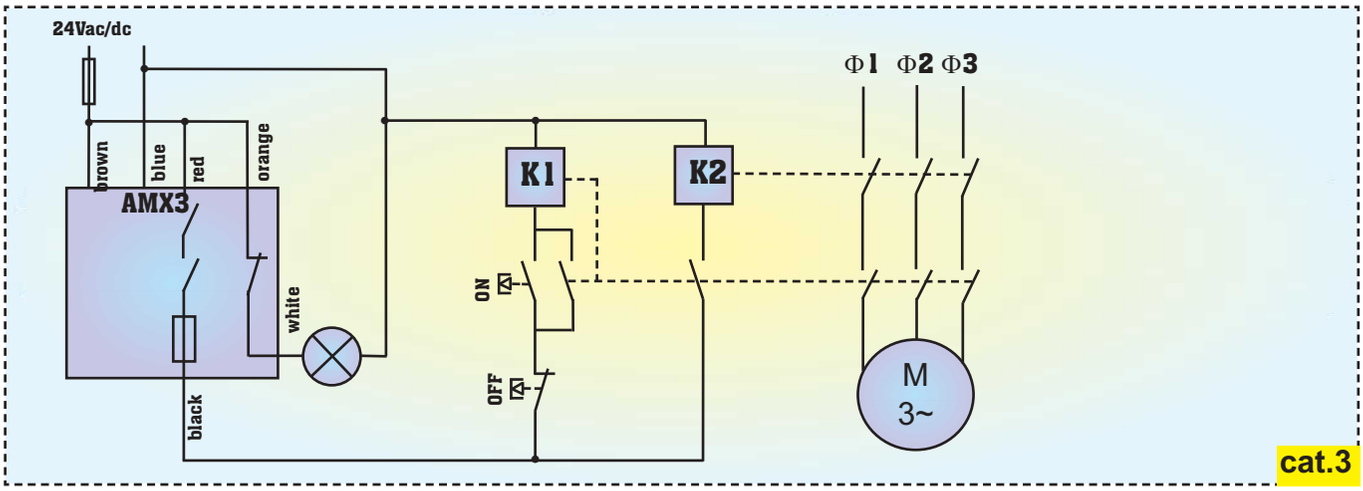
Control of the moving machine guards with a high tolerance of misalignment without using any safety module in the electronic board.

DIAGRAMS

APPLICATION DIAGRAMS

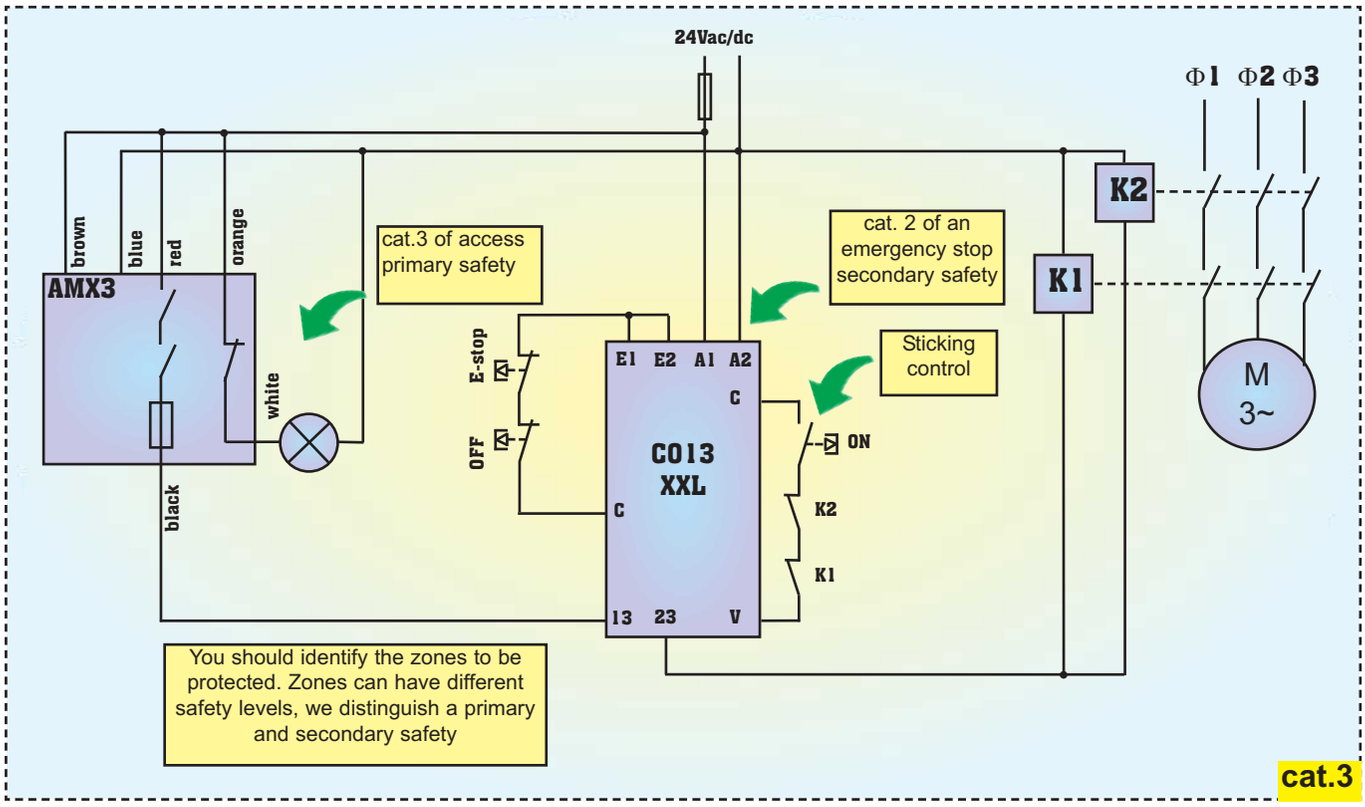
ACCESS PROTECTION IN CATEGORY 3

CATEGORY 3 OF POWER PARTS



ACCESS AND EMERGENCY STOP

CATEGORY 3 OF POWER PARTS

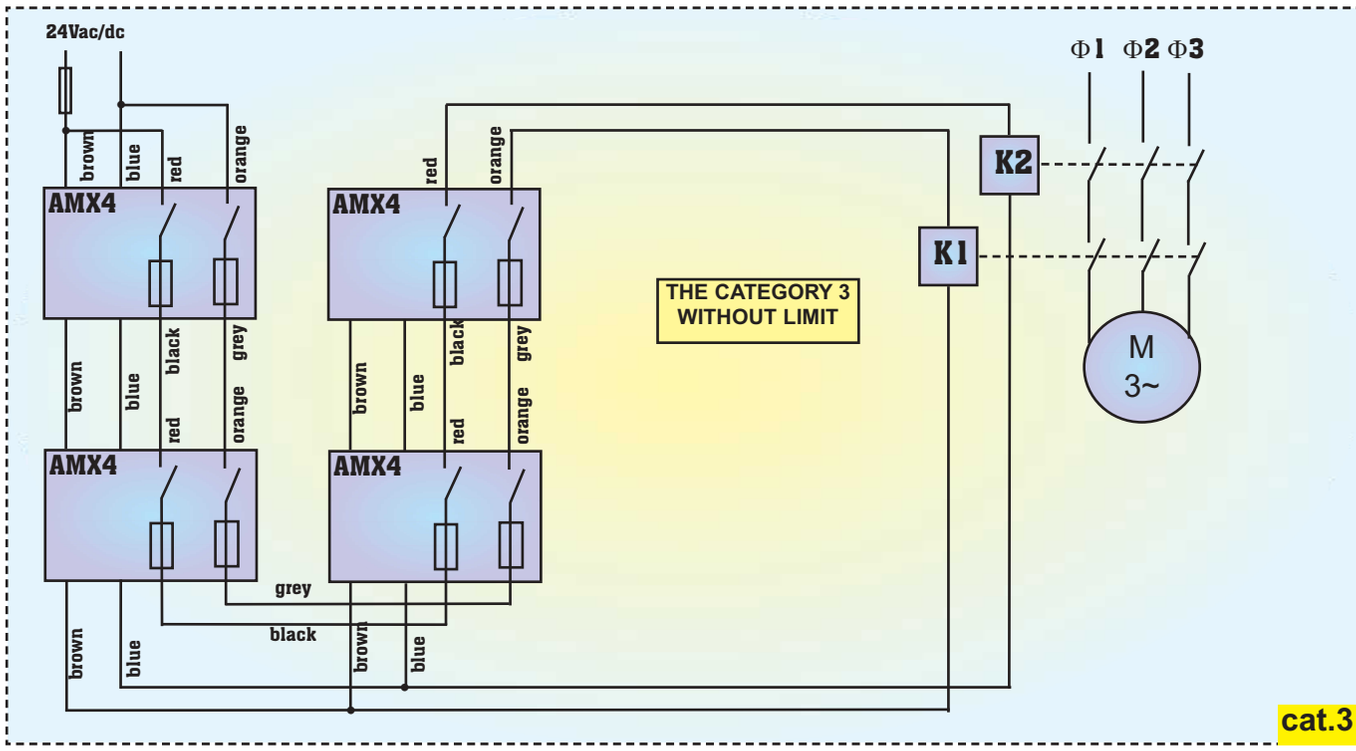


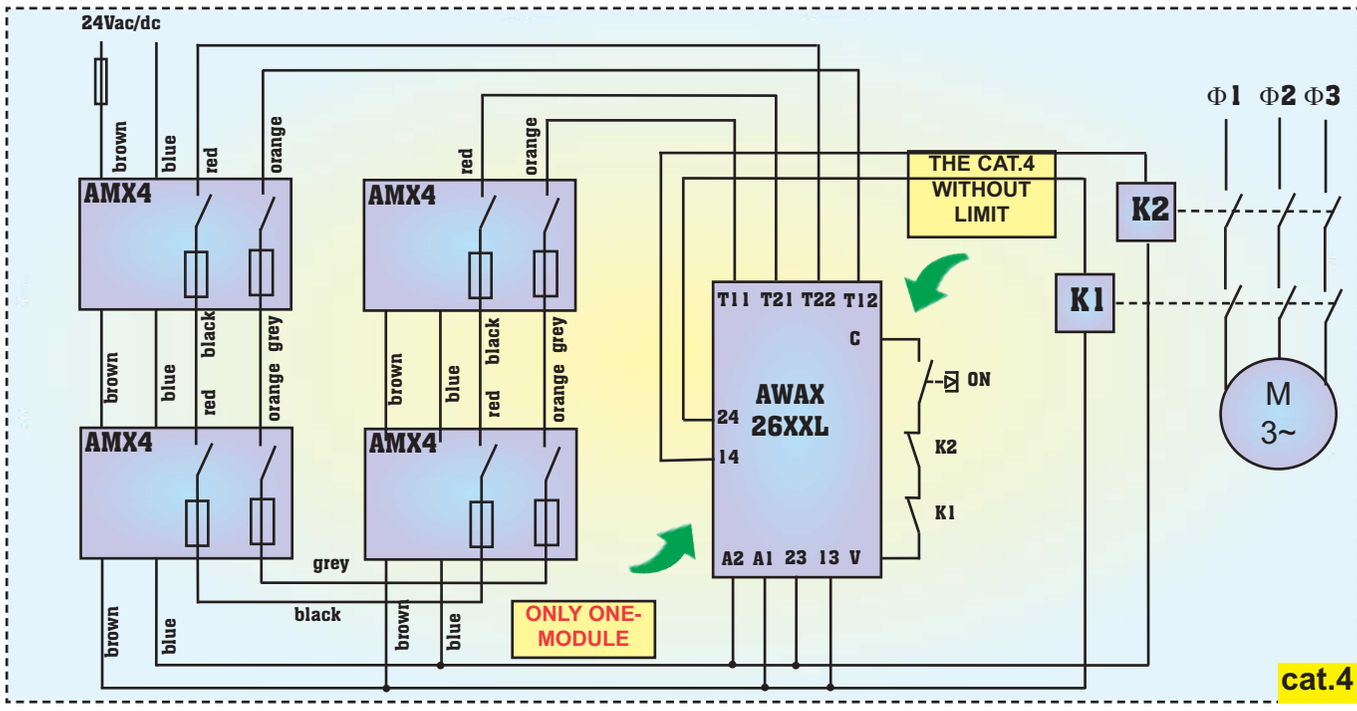
DIAGRAMS

APPLICATION DIAGRAMS

ACCESS PROTECTION IN CATEGORY 3

CATEGORY 3 OF THE POWER PARTS

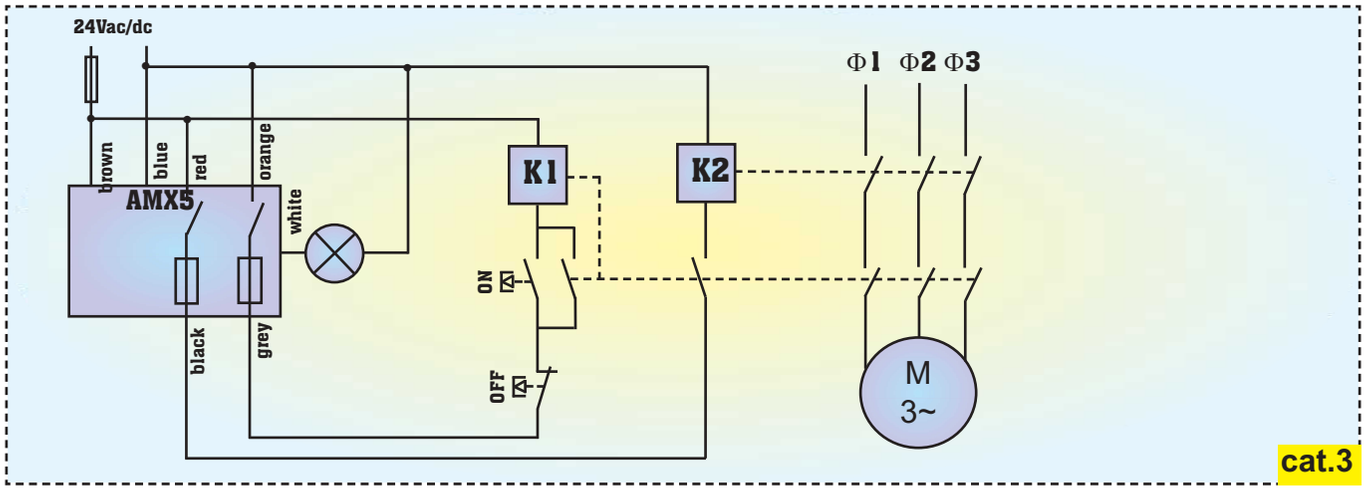




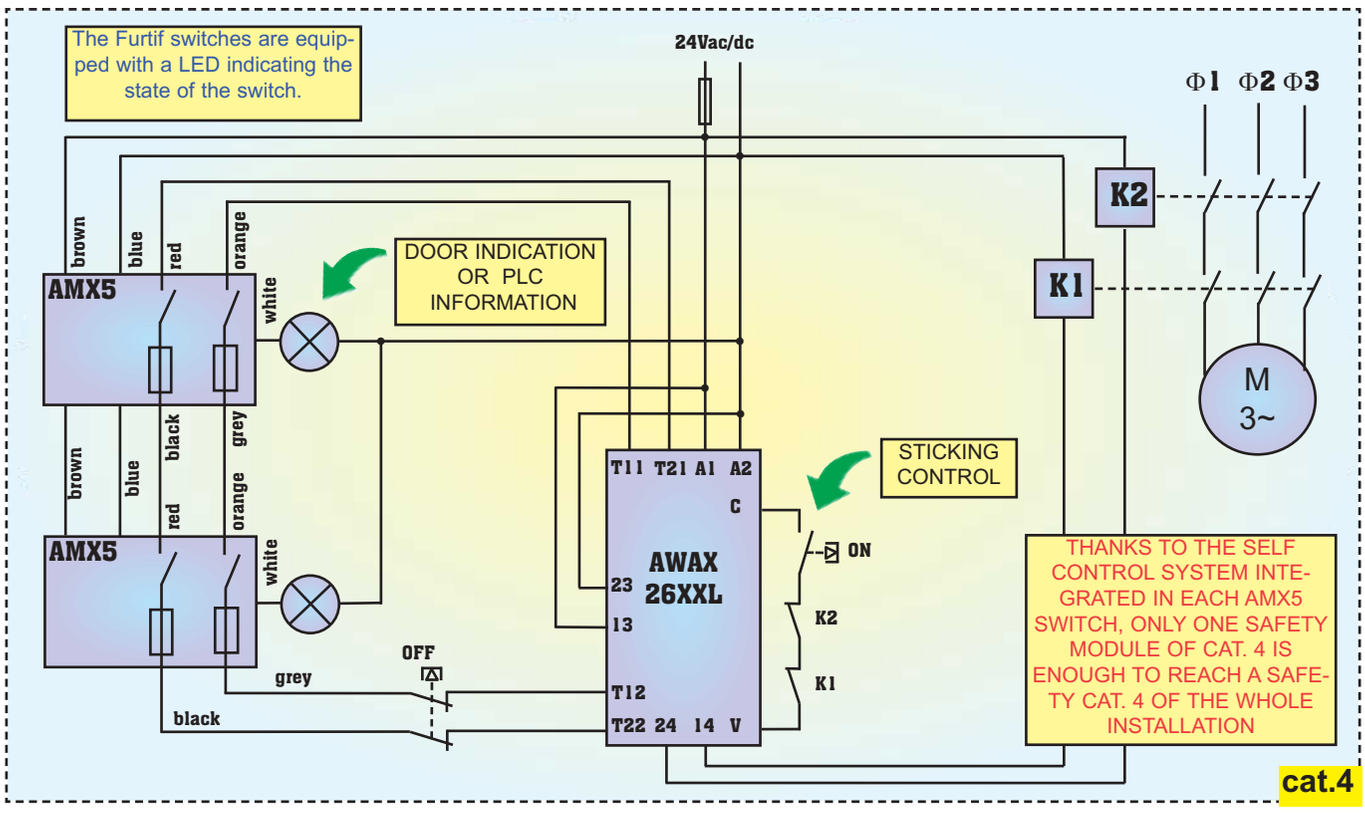
DIAGRAMS

APPLICATION DIAGRAMS

ACCESS PROTECTION IN CATEGORY 3



ACCESS PROTECTION IN CATEGORY 4



AMX5C M12

Stand-alone safety switch without safety module

CODED, NON-CONTACT, ELECTRO-MECHANICALSAFETY SWITCH TO CONTROL MACHINE GUARDS

- Incorporated automatic 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 incorporated M12-connector

ACOTOM3

LED incorporated and viewed via a translucent zone

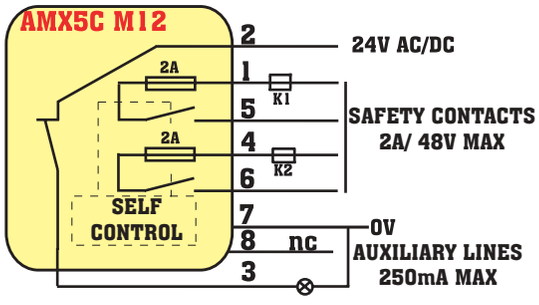
Complied with UL/CSA EN 60947-5-1

Category 3 according to EN954-1

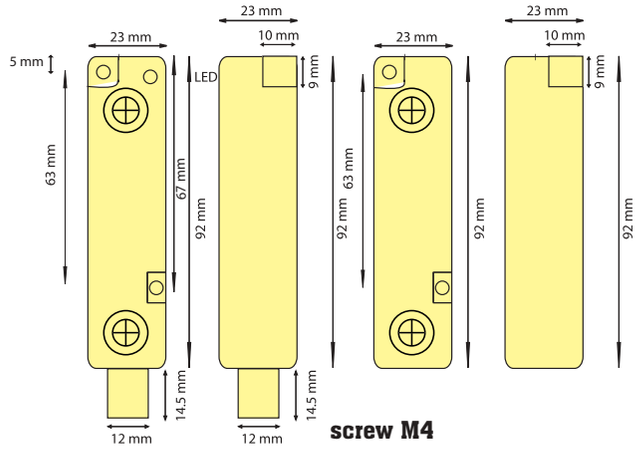
SAFETY CATEGORY

AMX5C M12 : category 3 according to EN954-1
AMX5C M12 : category 4* with safety module.
*Regardless of number of switches in series

DIAGRAM



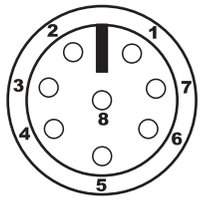
DIMENSIONS



PIN DETAILS

Male input connector:
1 white NO1
2 brown 24V
3 green AUX PNP NS
4 yellow NO2
5 grey NO1
6 pink NO2
7 blue 0V
8 red nc
(nc: not connected)

INM



APPLICATION

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

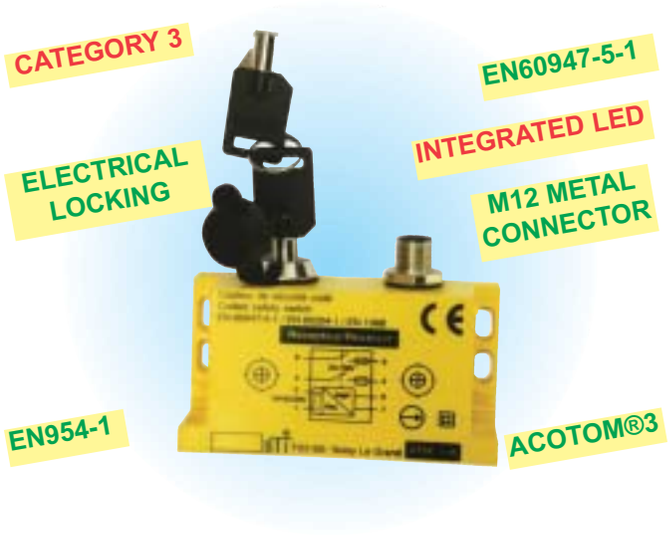
It remains the advantage of AMX5 and simplifies the wiring in series.

FURTIF AMX5CK

STAND-ALONE without safety module

NON CONTACT CODED SWITCH WITH A LOCKING DEVICE

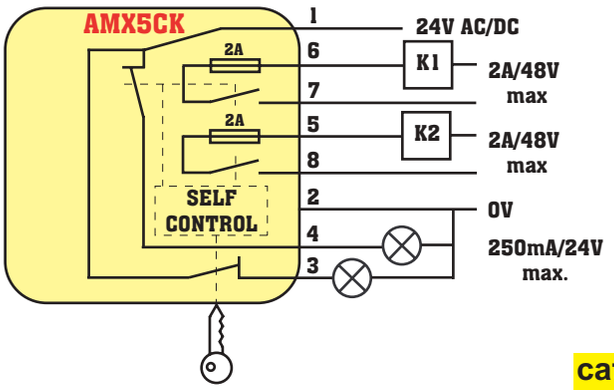
- Automatic integrated self-monitoring
- Electrical coded key locking : can be used in association with C4CK contactor
- Detection distance/hysteresis/misalignment: 10 /+2 /±9 (mm)
- 2NO 2A/48V + 2NC 24V/250mA
- Yellow LED : decoding
- Green LED : electrical interlocking
- Mounting brackets, M12 connector integrated
- Polycarbonate housing
- Temperature -20°C +60°C / Waterproof IP65



SAFETY CATEGORY

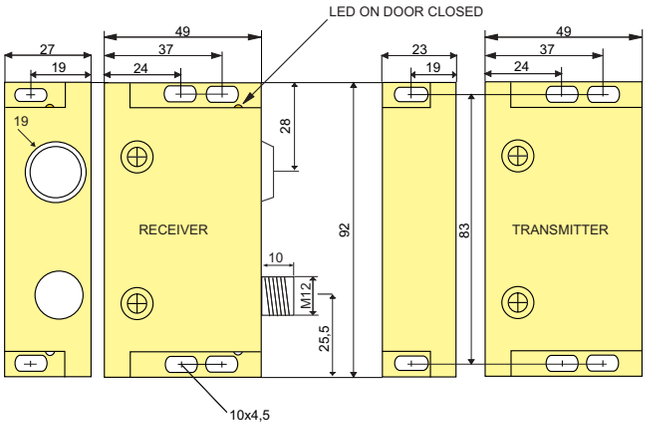
AMX5CK : category 3* according to EN954-1 category 4*with a safety module
* Regardless of number of switches in series

WIRING DIAGRAM



cat.3

DIMENSIONS

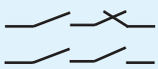


QUICK CONNECT PLUG

FRONT VIEW AMX5CK

1 brown: 0v 5 grey: NO2
2 white: +24v 6 yellow: AUX1
3 blue: NO1 7 green: AUX2
4 pink: NO1 8 red: NO2

AMX5CK in case of failure



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

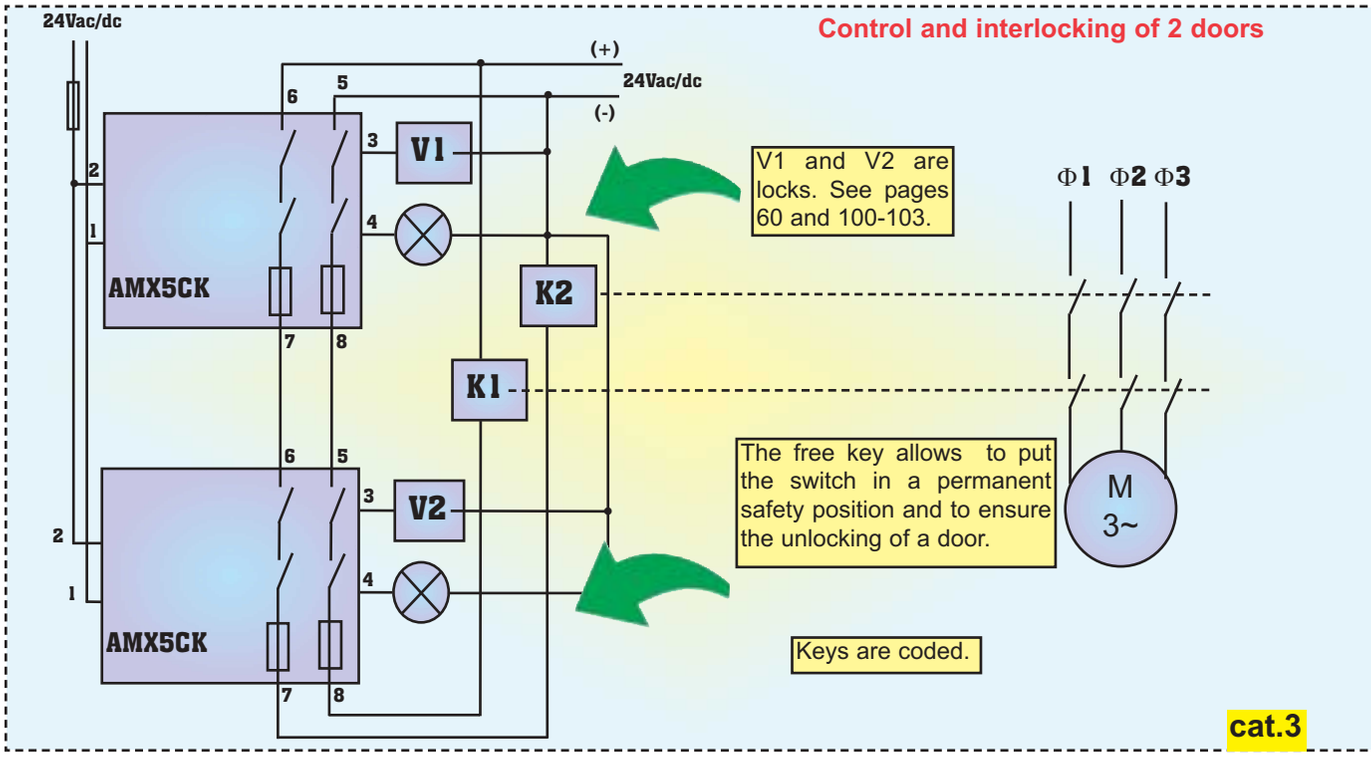
ADVICE

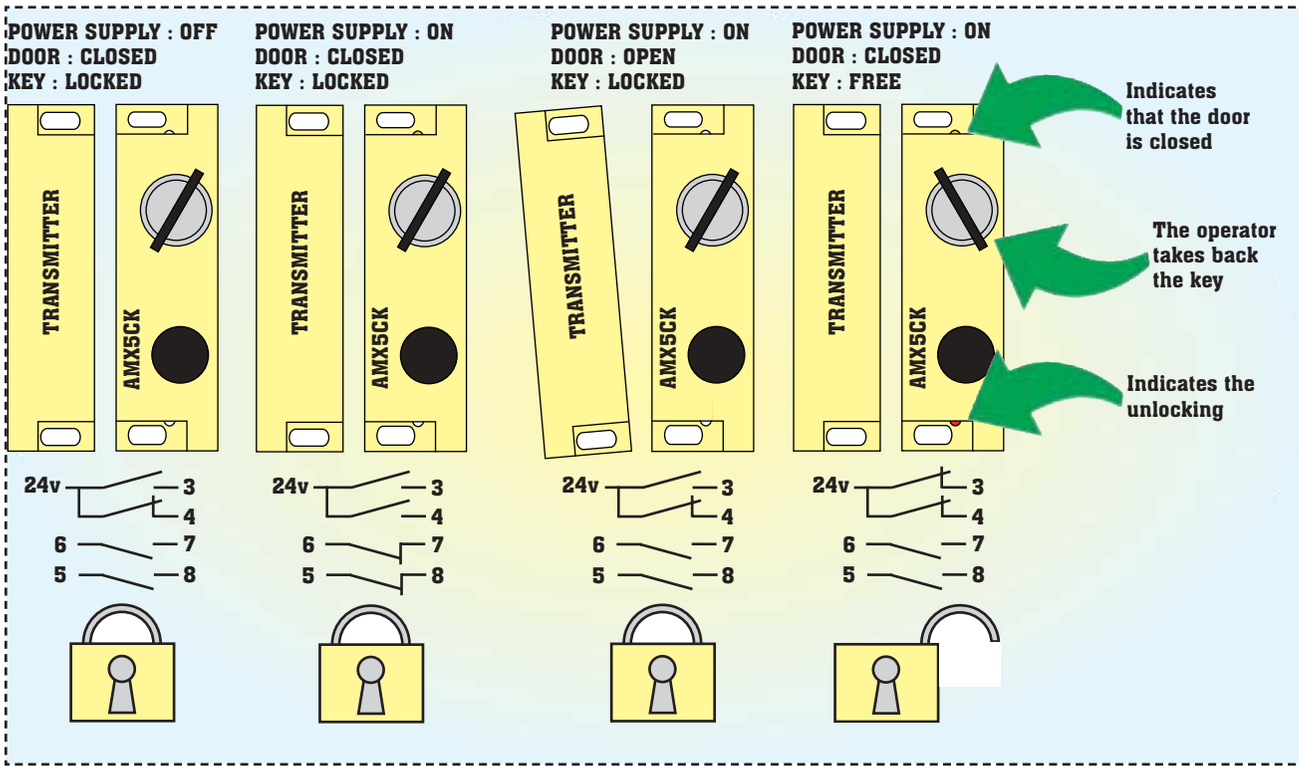
Transmission of key : contactor C4CKA and AMX5CK. It allows you to unlock a door of a dangerous zone ; your safety is ensured by means of a locking device. It may replace an interlocking device.

APPLICATION DIAGRAMS

INTERLOCKING IN CATEGORY 3

CATEGORY 3 OF THE POWER AREA





STAND-ALONE without safety module

FURTIF 2SSR

NON-CONTACT MULTICODE SAFETY SWITCH FOR THE POSITIONING OF MOVING PROTECTORS

- Detection distance/hysteresis/misalignment : 4 /+2 /±5 (mm)
- 2 NO 2A/250V (ref : 2SSR24V)
- 1NO+1NC 2A/250V (ref : 2SSR24BX)
- Red LED indication of absence of actuator
- Mounting brackets and moulded cable
- Polycarbonate housing
- Protection class IP67
- Temperature -20°C to+60°C
- 8 codes (001 to 008)

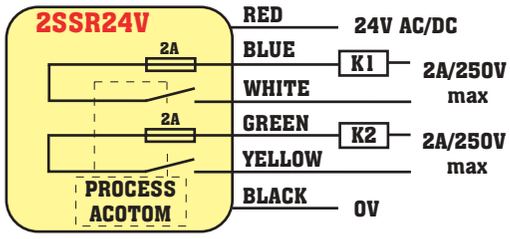
CAT. 1 | LED INTEGRATED | ACOTOM®

DETECTION DISTANCE 4 mm | CONTACT 250V | EN60947-5-1

SAFETY CATEGORY

2SSR24V and BX : category 1 according to EN954-1 category 2 with periodical check
Switches in series + safety module : category 3
Category 4 if only one switch + safety module

WIRING DIAGRAM



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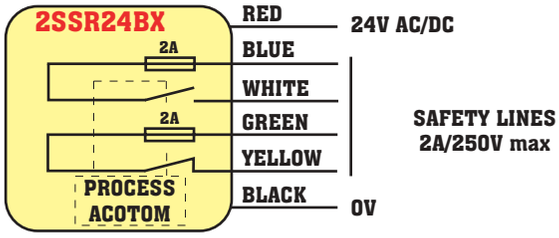

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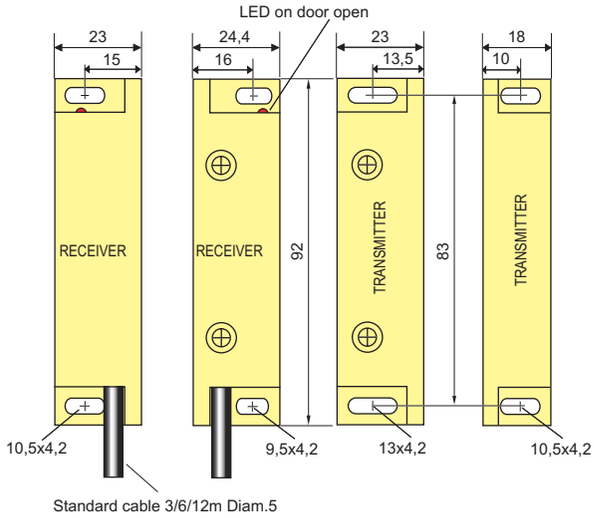
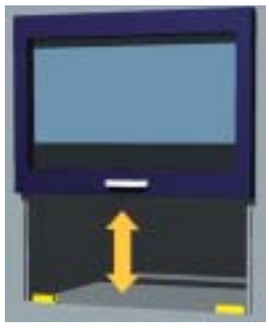
DIMENSIONS





Adapted to the machine where danger is close to the protector.

Our switches are equipped with a 2A fuse in order to guarantee the electrical protection : it protects 1/4 of the maximum admissible current by the contacts.

ADVICE

The small detection distance and hysteresis is adapted to position control : e.g. rotary machining centers

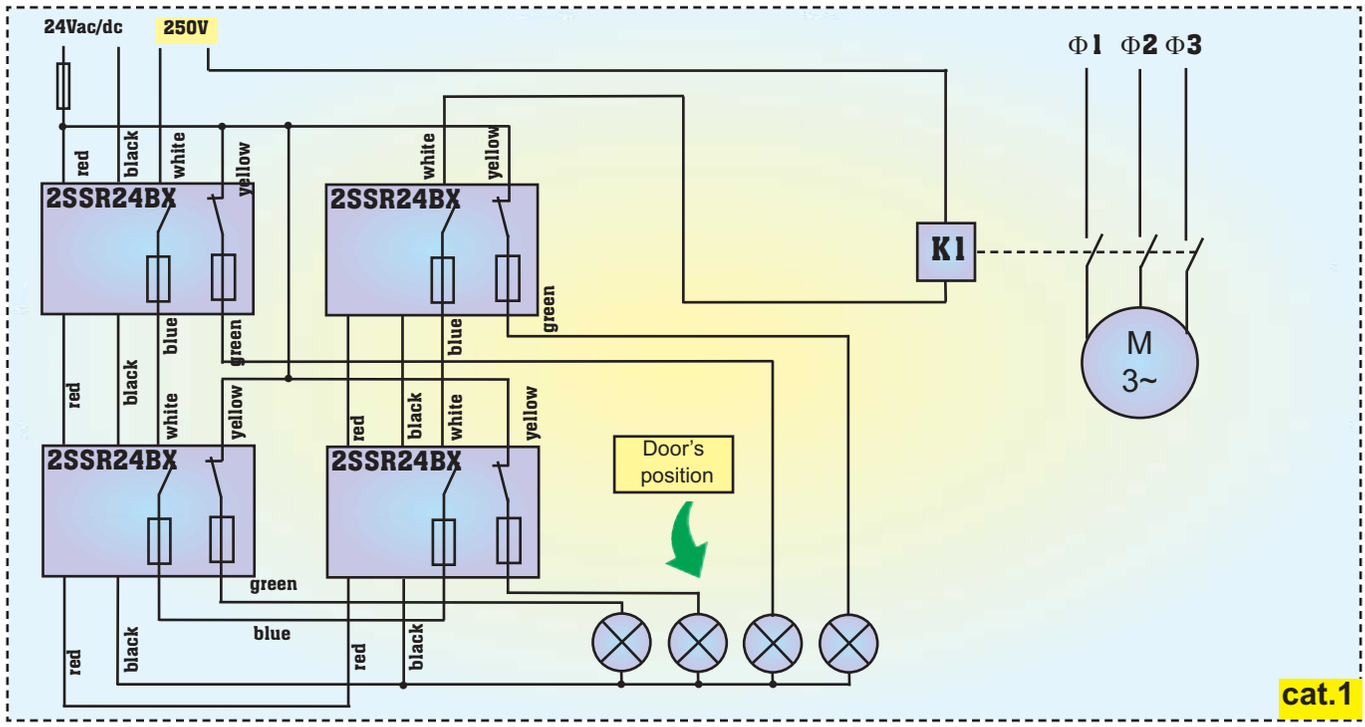
COMITRONIC

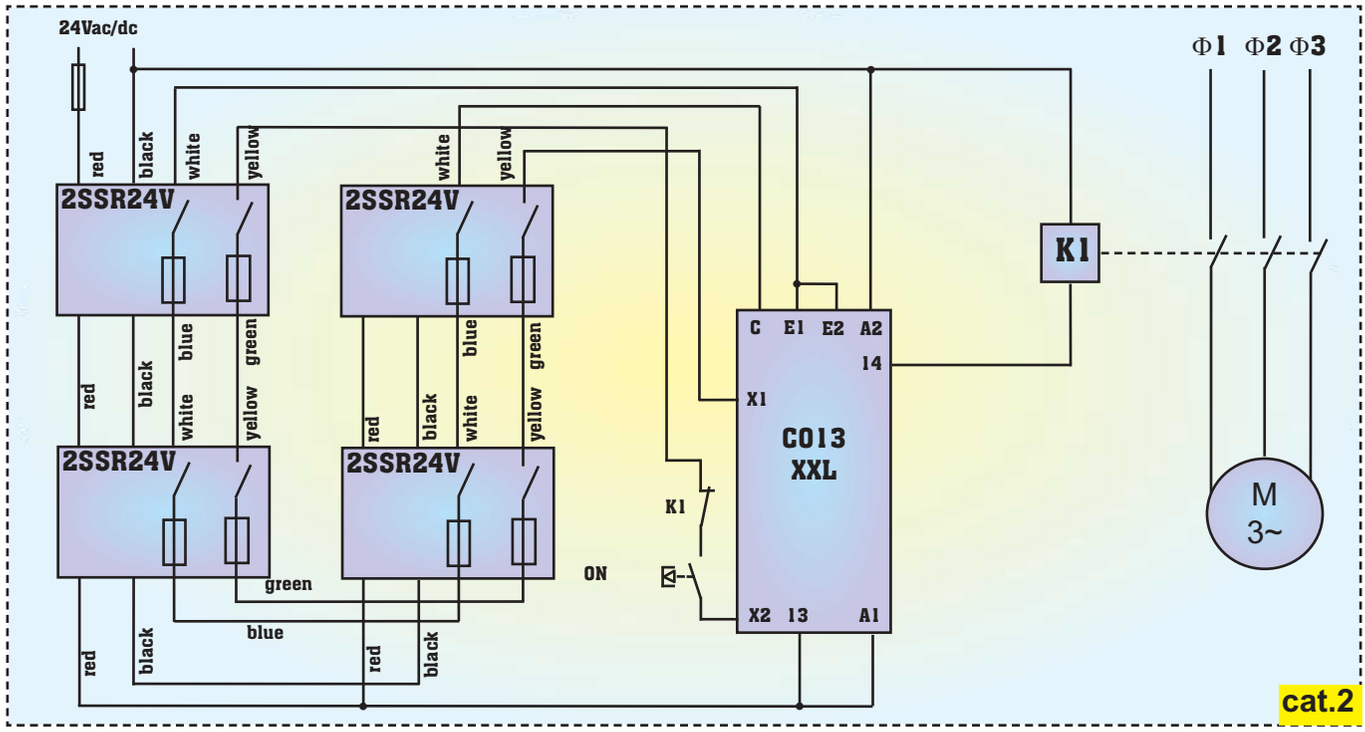
DIAGRAMS

APPLICATION DIAGRAMS

ACCESS PROTECTION IN CATEGORY 1

CATEGORY 1 OF THE POWER PARTS



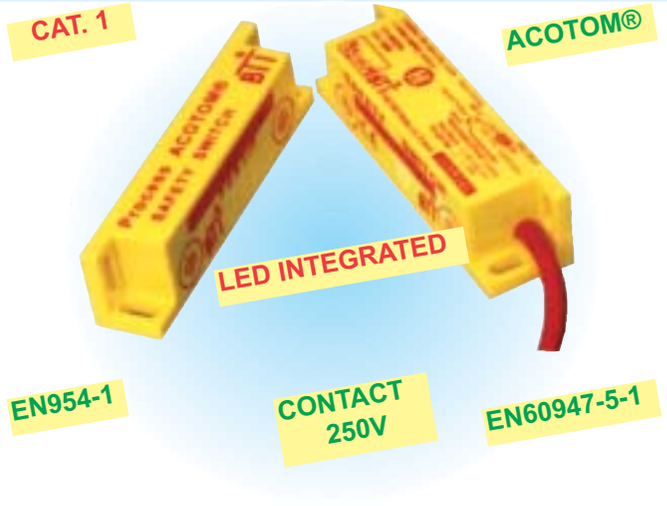


FURTIF 3, 4, 5SSR

STAND-ALONE without safety module

NON-CONTACT CODED SAFETY SWITCH FOR THE CONTROL OF DOORS ON HASARDOUS MACHINES

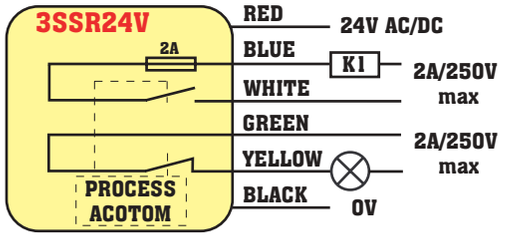
- Detection distance/hysteresis/misalignment : 10 /+2 /±10 (mm)
- Red LED indication of actuactor absence
- Dual color LED for the models 4SSR24BX and 5SSR24BXUS
- Mounting brackets and moulded cable
- Connector M12
- Polycarbonate housing
- Protection class IP67
- Temperature -20°C to +60°C



SAFETY CATEGORY

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

ELECTRICAL DIAGRAM



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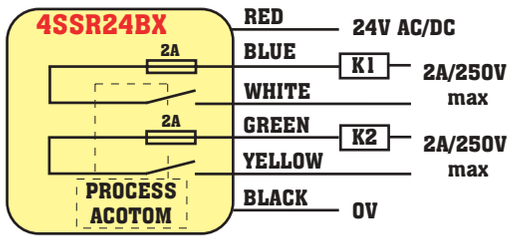
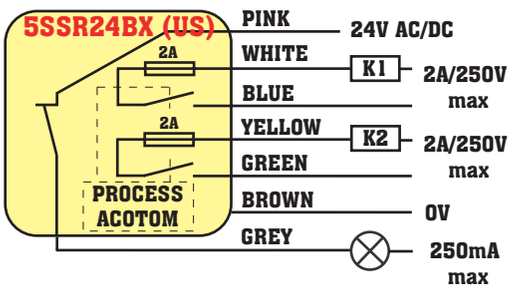


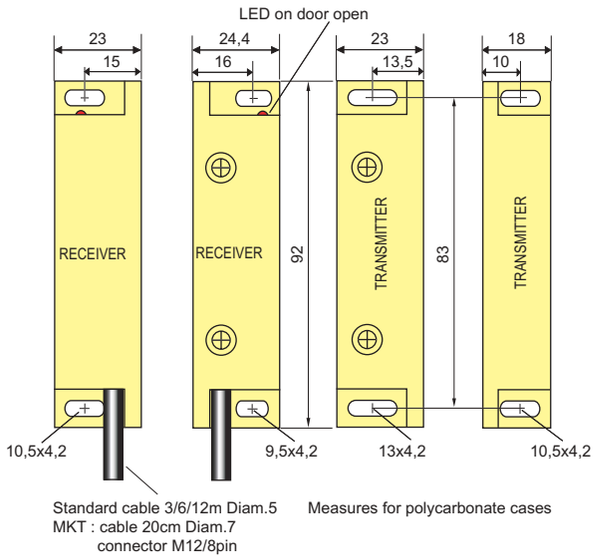
cat.1



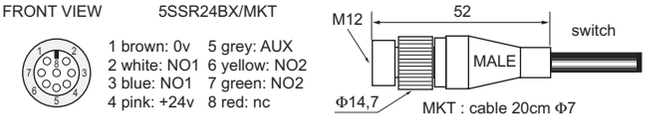
cat.1

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

DIMENSIONS



PIN DETAILS FOR MKT CONNECTOR



ADVICE

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

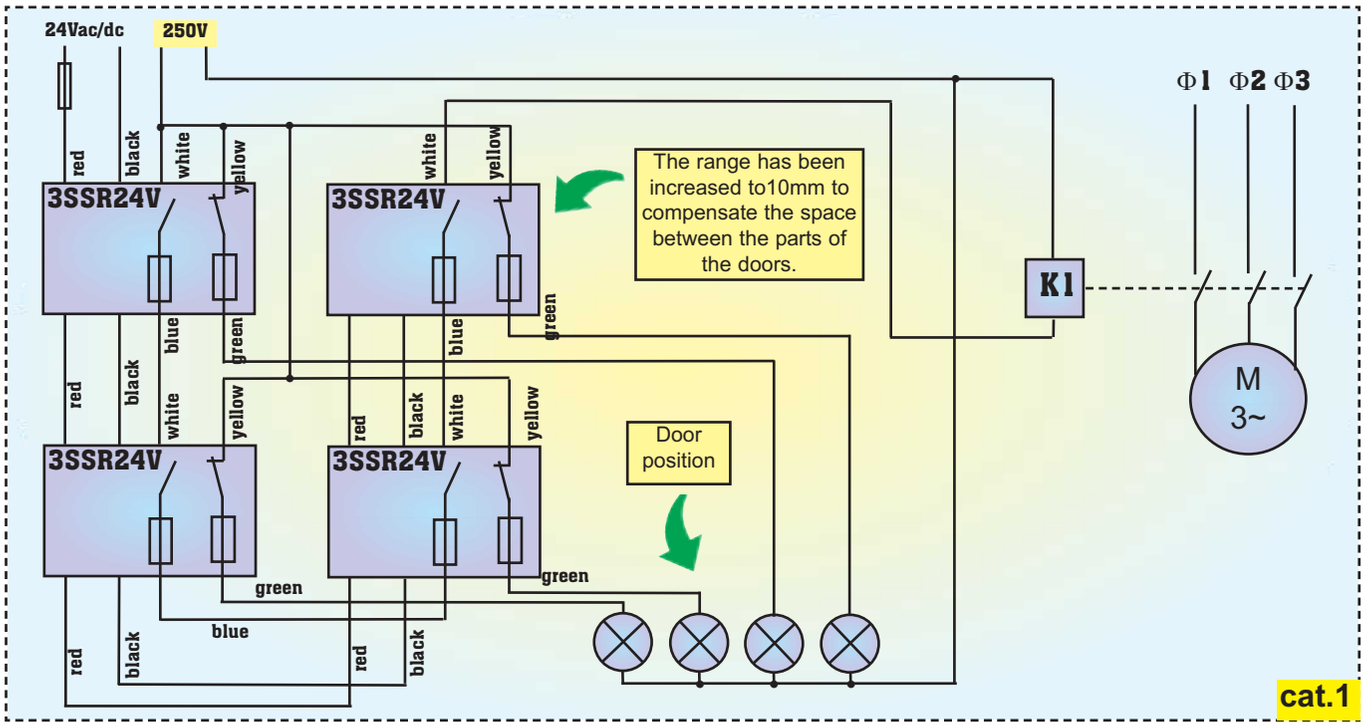
COMITRONIC

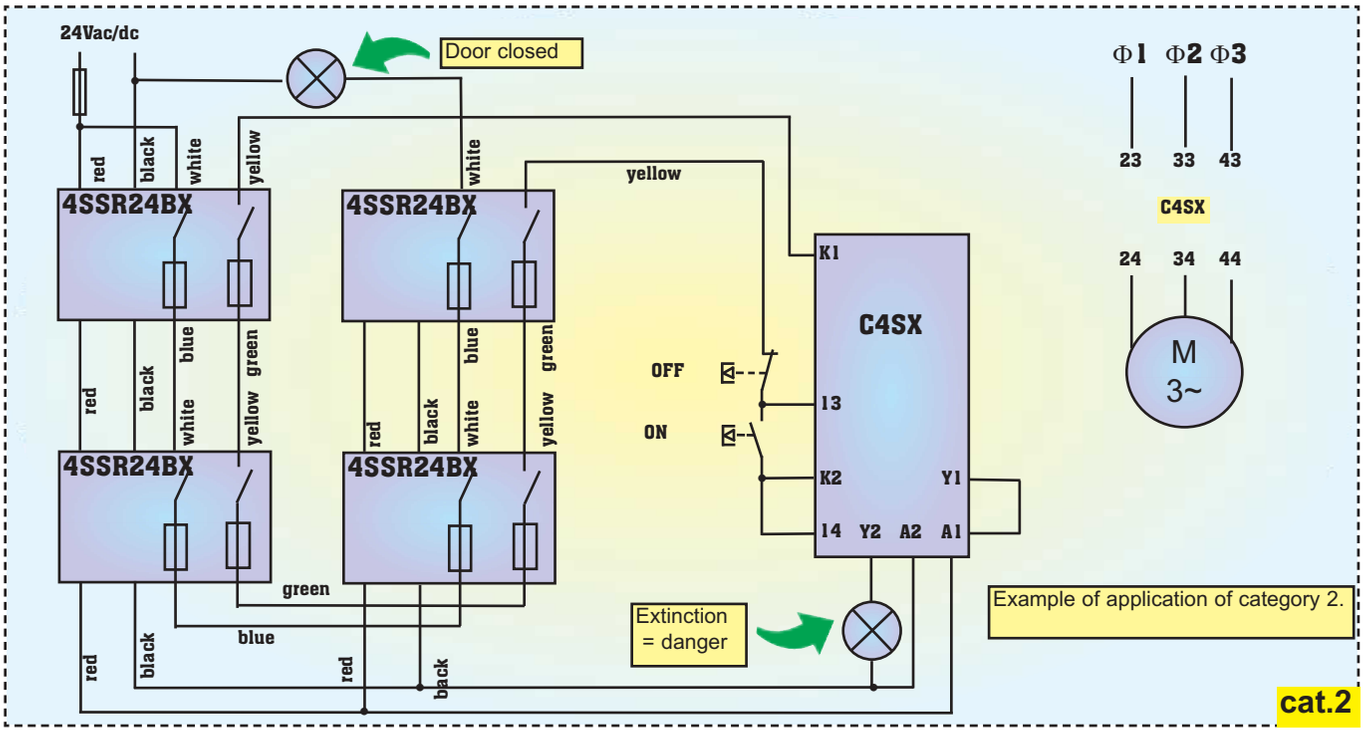
DIAGRAMS

APPLICATION DIAGRAMS

ACCESS PROTECTION IN CATEGORY 1

CATEGORY 1 OF THE POWER PARTS



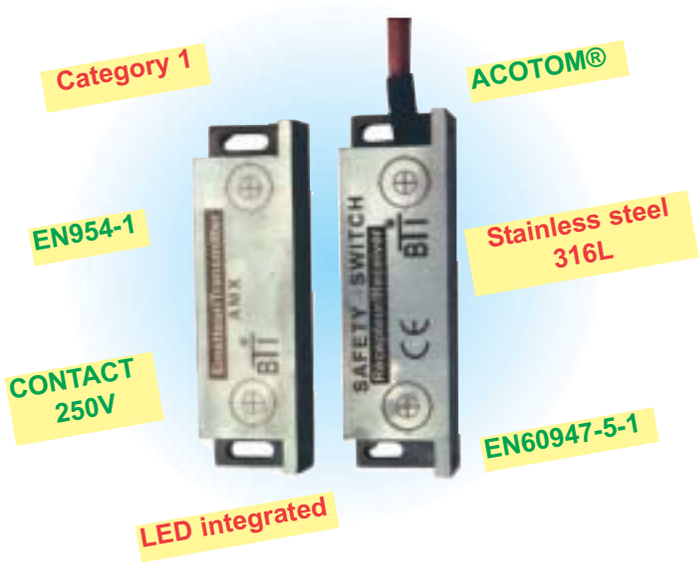


5SSR24BX / INOX

STAND-ALONE without safety module

NON-CONTACT CODED ELECTRO-MECHANICAL SAFETY SWITCH IN STAINLESS STEEL

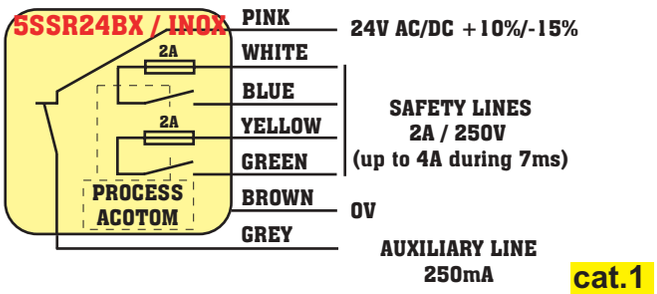
- Switching distance/hysteresis/misalignment: 10 /+2 /±10 (mm)
- Red LED indication of actuator absence
- Mounting brackets and moulded cable
- Connector M12
- Housing in stainless steel 316 L
- Waterproof IP67/Temperature -20°C to +60°C
- Ideal for hard environment and for hygiene requirement



SAFETY CATEGORY

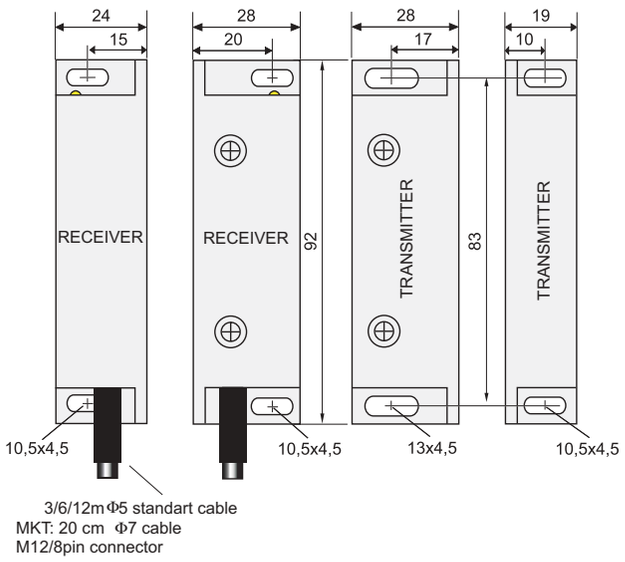
5SSR24BX/OX : category 1
5SSR24BX/OX in series + safety module : category 3 (category 4 if wired alone with safety module)

WIRING DIAGRAM



cat.1

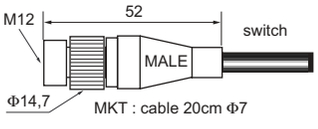
DIMENSIONS



PIN DETAILS FOR MKT CONNECTOR

FRONT VIEW 5SSR24BX/MKT

1 brown: 0v 5 grey: AUX
2 white: NO1 6 yellow: NO2
3 blue: NO1 7 green: NO2
4 pink: +24v 8 red: nc



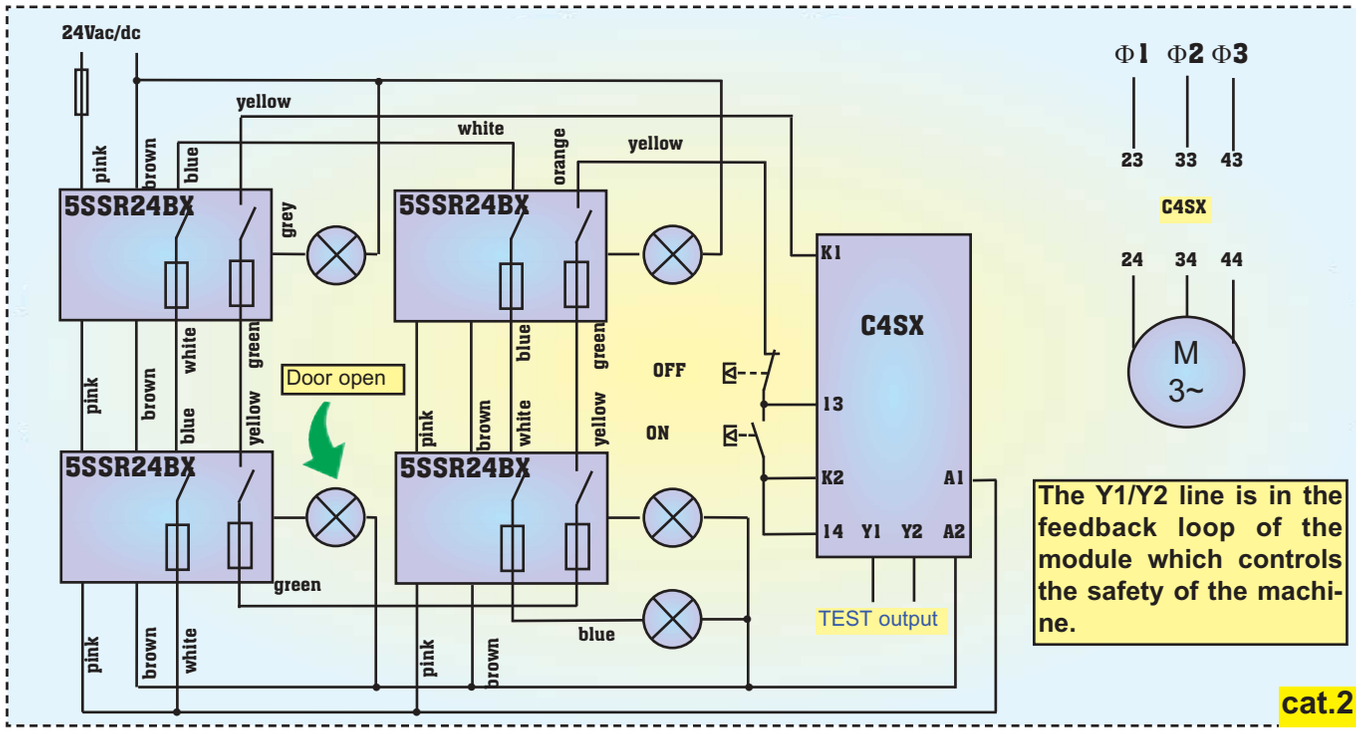
APPLICATION

-A better alternative to replace all mechanical switches with more tolerance to misalignment. It's uncheatable 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.

COMITRONIC

DIAGRAMS



The FURTIF switches such as 2,3,4 and 5SSR have dry contacts and a switching capacity of 250 Vac/2A max.

The FURTIF AMX series have dry contacts with a switching capacity of 48Vac/2A max.

Our tests in overvoltage guarantee an extraordinary life expectancy of 3 000 000 operations when a Furtif switch supplies contactors of 3A in rush current.

FURTIF 7SSR24V

STAND-ALONE without safety module

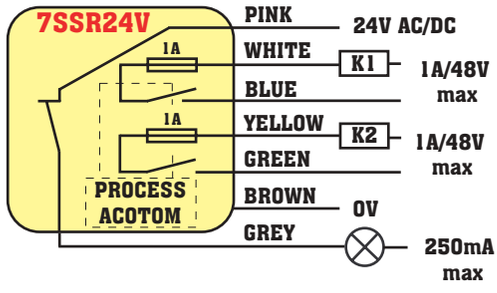
CODED NON-CONTACT SAFETY SWITCH FOR THE POSITION CONTROL OF MOVING DOORS AND GATES

- Cylindrical design
- Misalignment : ±30° in rotating movement
- Detection distance / hysteresis : 6 /+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°C to +60°C

SAFETY CATEGORY

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

WIRING DIAGRAM



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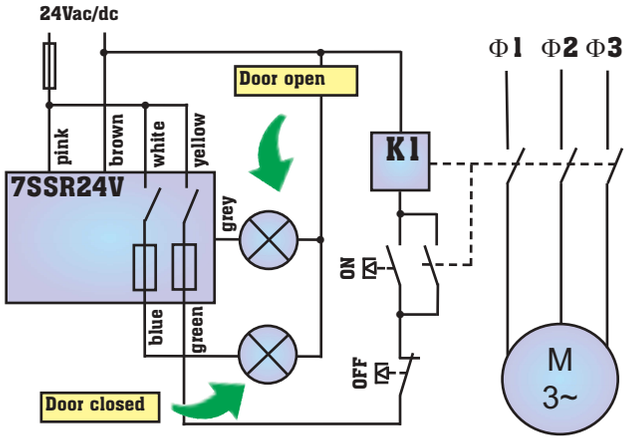
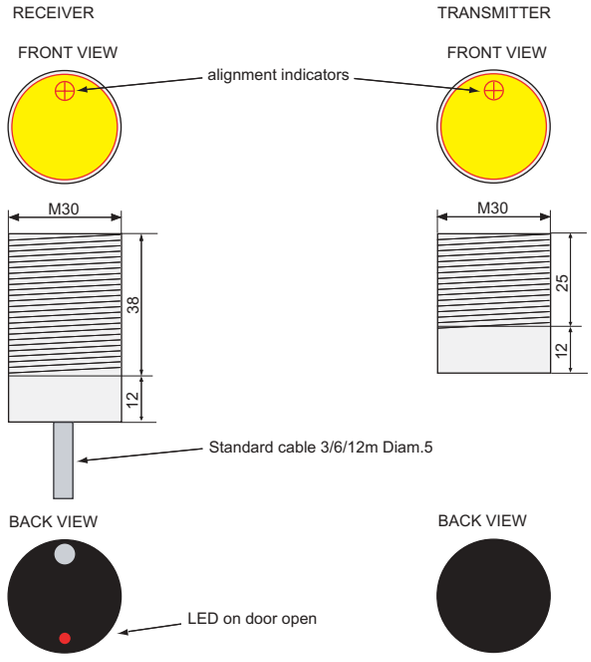


DIMENSIONS



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.

Complied with UL/CSA

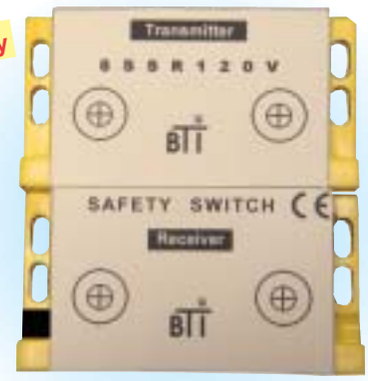
8SSR120V

STAND-ALONE without safety module

CODED, NON-CONTACT, ELECTRO-MECHANICAL SAFETY SWITCH TO CONTROL MACHINE GUARDS

- Switching distance / hysteresis : 13 mm/1 mm
- LED indicating the code detection
- Polycarbonate housing
- Power supply : 120Vac -10%/+10% 60 Hz
- Protection class IP67
- Temperature -25°C to+60°C
- Safety output: max: 500 mA

120 Vac supply

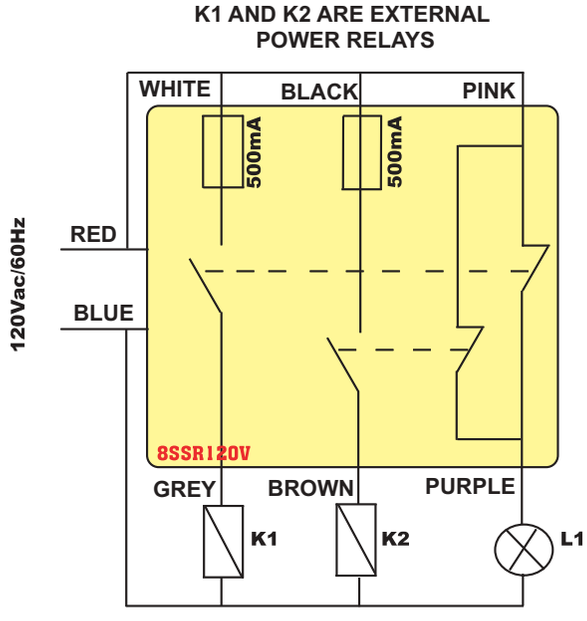


Green LED incorporated

SAFETY CATEGORY

8SSR120V : category 1according to EN954-1
8SSR120V : category 4 in association with safety module like AWAX45XXL2.
* Category 3 if wired in series

WIRING DIAGRAM



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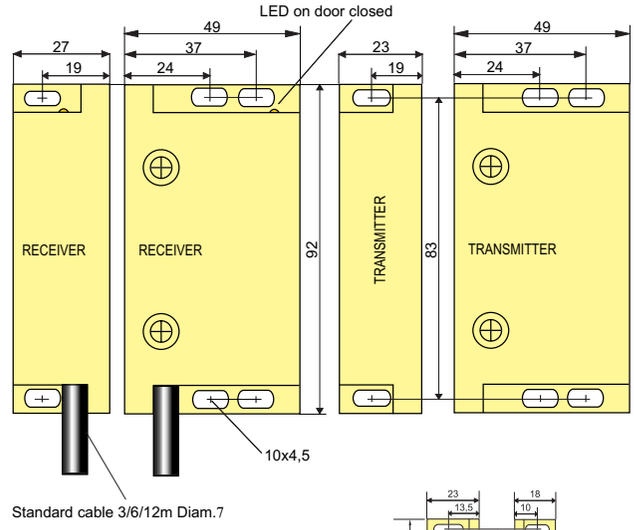
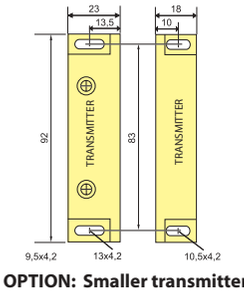
DIMENSIONS



You may get a smaller transmitter



OPTION: Smaller transmitter

APPLICATION

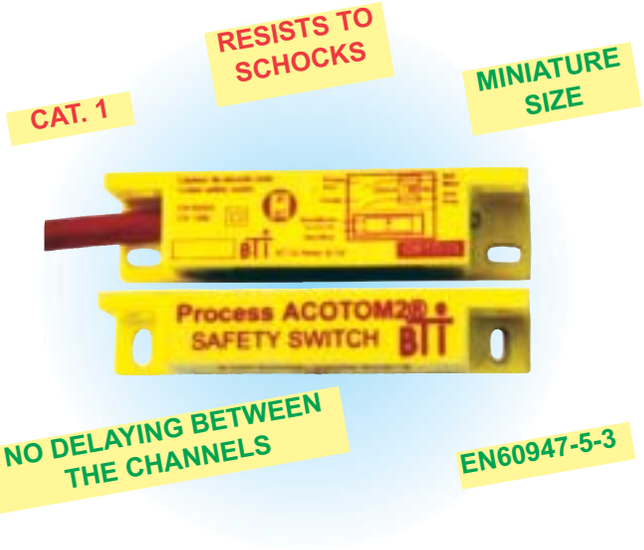
For small electrical cabinet with power supply 120 V

FURTIF OPTO2S

STAND-ALONE without safety module

CODED NON-CONTACT SAFETY SWITCH FOR TINY ACCESS

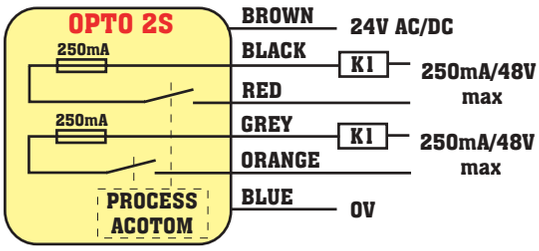
- Small housing fits in tight access areas
- Resistant to shocks : 75G maxi
- Detection distance/hysteresis/misalignment : 7 /+2 /±3 (mm)
- 2 NO 250mA/48V
- No delay between the channels
- LED indication of switch condition
- Mounting brackets and moulded cable
- Polycarbonate housing
- Protection class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



SAFETY CATEGORY

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

WIRING DIAGRAM



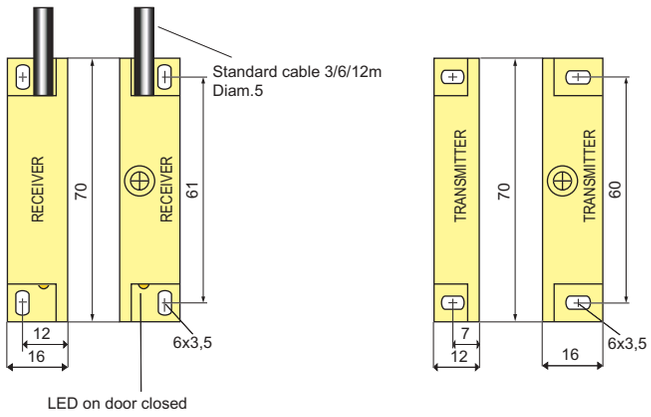
cat.1

ACCEPTABLE CHARGES IN THE CIRCUIT

Admissible overcurrent to 25°C	Functioning time
In = 250 mA	4 hours min.
In = 500 mA	5 seconds max.
In = 750 mA	0,2 seconds max.

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

DIMENSIONS

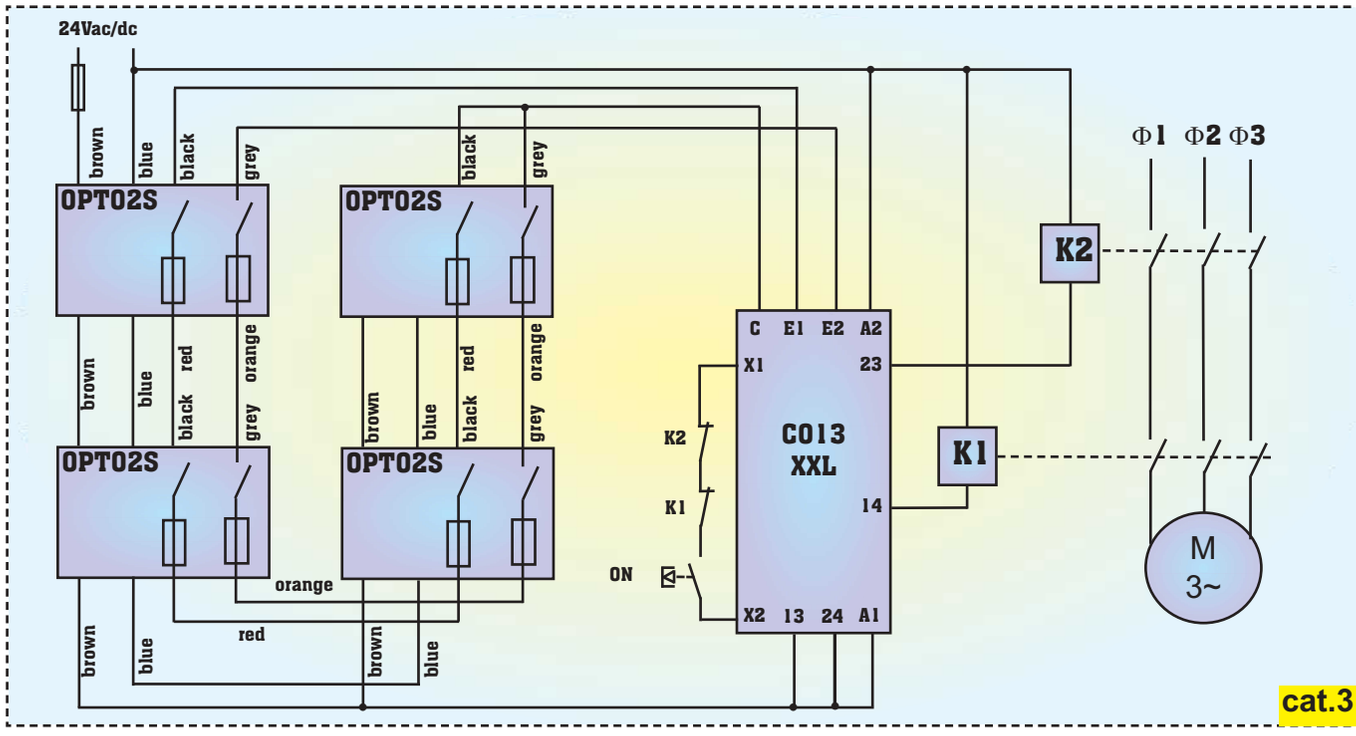


ADVICE

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

COMITRONIC

DIAGRAMS

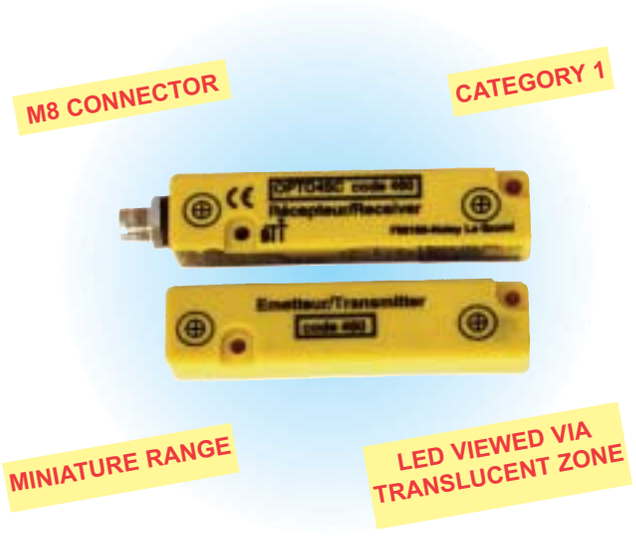


OPTO3SC M8

Stand-alone without safety module

CODED NON-CONTACT SAFETY SWITCH FOR TINY ACCESS

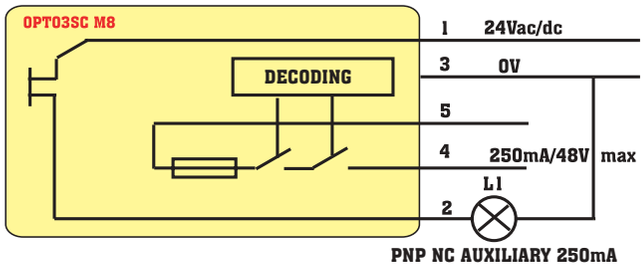
- Switching distance/hysteresis : 8 mm/0.5 mm
- LED indication of switch condition
- Polycarbonate housing
- Power supply: 24 V ac/dc -15% /+10% 50 /60 Hz
- Protection class IP67/Temperature -20°C to +60°C
- Safety contact output: max: 48V/250mA
- Response time : 4 ms



SAFETY CATEGORY

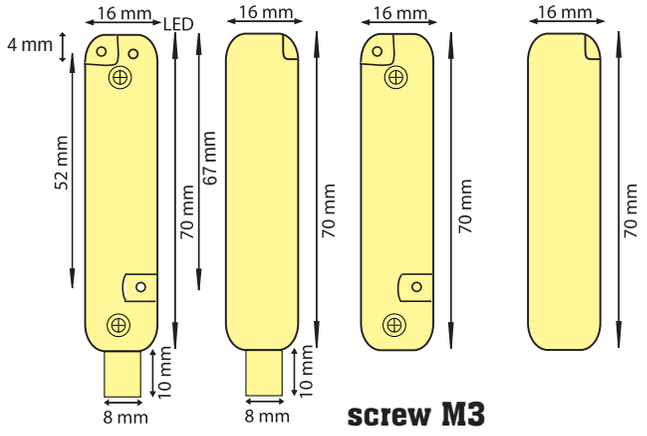
OPTO3SC M8 : category 1 according to EN954-1
OPTO3SC M8 : category 1 according to EN954-1 with safety module in single-channel (CO13XXL)

WIRING DIAGRAM



cat.1

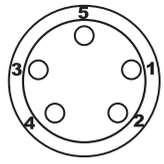
DIMENSIONS



PIN DETAILS

MALE INPUT CONNECTOR :
1 brown 24Vac/dc
2 white AUX PNP NO
3 blue 0V
4 black OUTPUT NO1
5 grey OUTPUT NO1

INM



APPLICATION

Ideal for tiny access on machine and to wire in series

OPTO4SC M8

Stand-alone without safety module

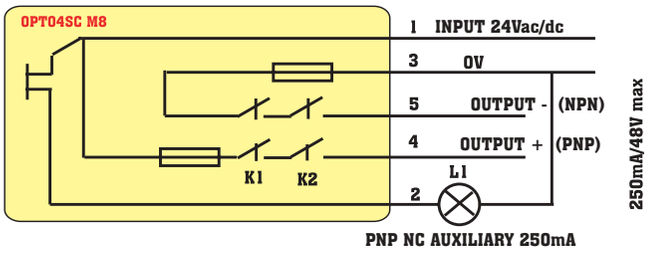
CODED NON-CONTACT SAFETY SWITCH FOR TINY ACCESS

- Switching distance/hysteresis : 8 mm/0.5 mm
- 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
- Contact output: safety contact NPN or PNP 250mA / auxiliary contact: PNP 250mA
- Response time : 4 ms

SAFETY CATEGORY

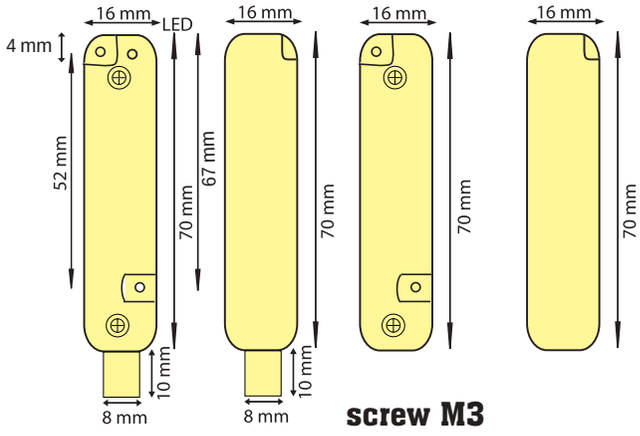
OPTO4SC M8 : category 1 according to EN954-1
OPTO4SC M8 : category 4 if wired alone with a safety module like AWAX26XXL
* Category 2 if wired in series

WIRING DIAGRAM



cat.1

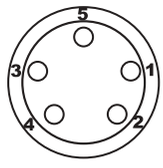
DIMENSIONS



PIN DETAILS

Male input connector :
1 brown 24Vac/dc
2 white AUX PNP NO
3 blue 0V
4 black OUTPUT PNP
5 grey OUTPUT NPN

INM



APPLICATION

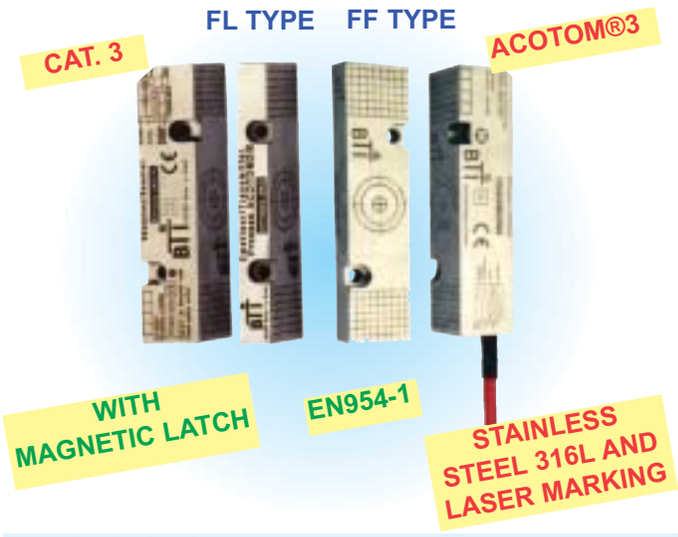
Ideal for tiny access on machine and to wire in series

BOSTER

STAND-ALONE without safety module

CODED SAFETY SWITCH WITH MAGNETIC LATCH FOR THE GUARDS OF DANGEROUS MACHINES

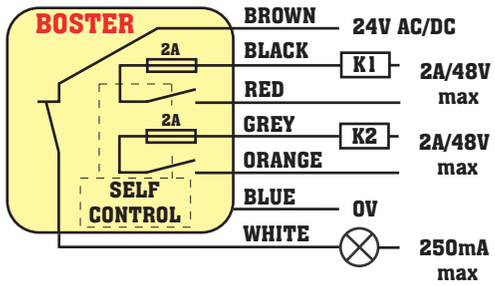
- Magnetic latch 4 Kg
- Decoding by Acotom3 process
- Safety contacts 2A/48V
- Auxiliary output for automation control or lights
- Stainless steel 316L housing
- Laser marking
- Protection class IP67
- Temperature -20°C to +60°C



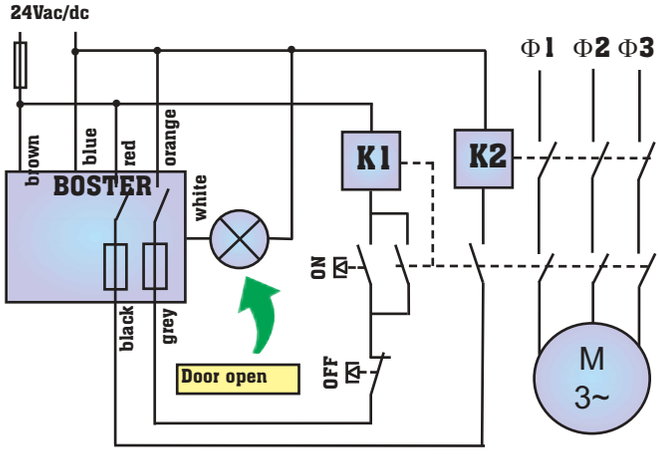
SAFETY CATEGORY

BOSTER : category 3*
BOSTER in series + safety module : category 4*
*regardless of number of switches in series

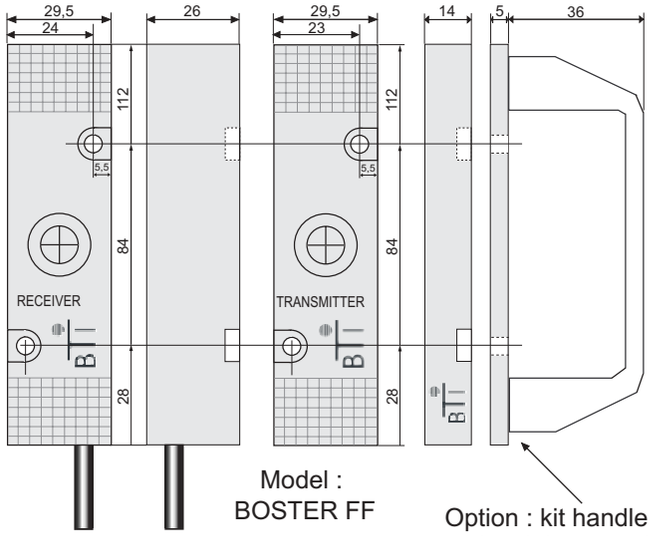
WIRING DIAGRAM



cat.3

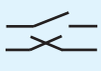


DIMENSIONS



Front fixing : FF
Side fixing : FL (please consult us)

BOSTER in case of failure



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

ADVICE

Thanks to the stainless steel 316L housing and laser marking, this product can be used in the dairy industry. Door latches up to 5m². The marking is still readable after cleaning.

Fitted with TÜV, approved Acotom® process

Complied with UL/CSA

RANGE WITH BUILT-IN CONNECTORS FOR EASY AND QUICK WIRING

Without screw cover

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

With screw cover

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

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

Quick and easy fitting to 25 or 45 mm aluminium profile

Other versions:

AMX/ ANATOM with M12 connector

Miniature range with M8 connector: OPTO3S, OPTO4S

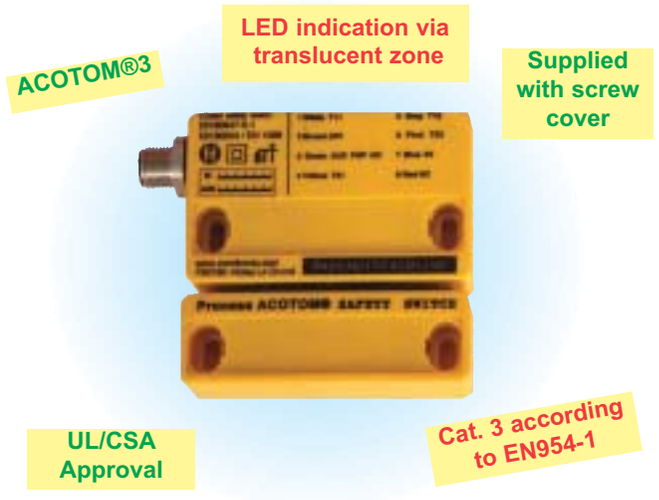
COMITRONIC

STAND-ALONE safety switch without safety module

MASSIMOTTO X5 M12 AR

CODED NON-CONTACT ELECTRO-MECHANICAL SAFETY SWITCH TO CONTROL MACHINE GUARDS

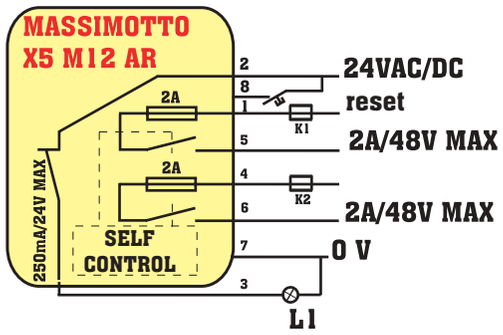
- Automatic built-in self-checking
- Fitted with an input for Manual Reset
- With single M12 connector
- Switching distance/hysteresis : 8 mm/3 mm
- LED indication of actuator presence
- Polycarbonate housing
- Power supply : 24 V ac/dc -15% /+10% 50 /60 Hz
- Waterproof IP67/Temperature -20°C to +60°C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



SAFETY CATEGORY

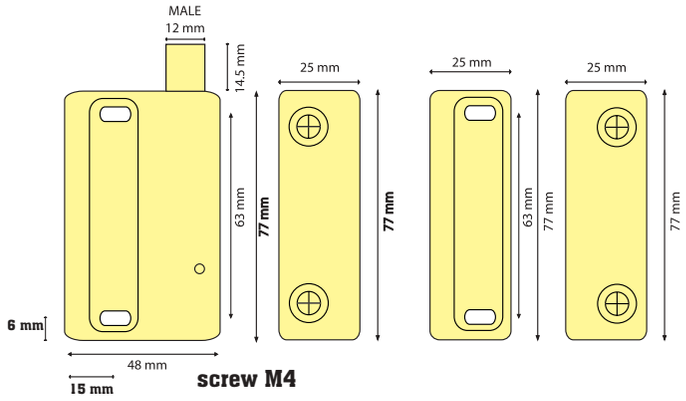
MASSIMOTTO X5 M12 AR : category 3 according to EN954-1/EN 12100-2
MASSIMOTTO X5 M12 AR : category 4* in association with safety module
*Regardless of number of switches in series

WIRING DIAGRAM



cat.3

DIMENSIONS



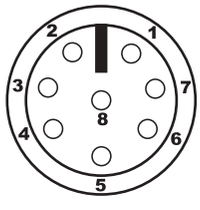
APPLICATION

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

PIN DETAILS

Male input connector:
1 white NO1
2 brown 24V
3 green Auxiliary PNP NC
4 yellow NO2
5 grey NO1
6 pink NO2
7 blue 0V
8 red RESET

INM

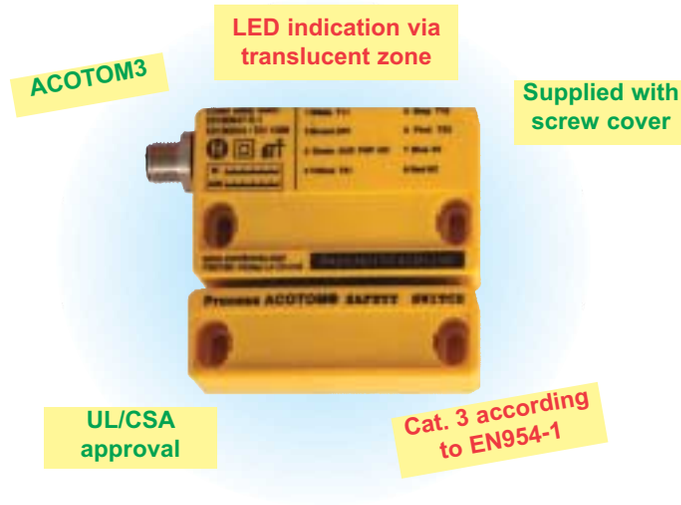


STAND-ALONE safety switch without safety module

MASSIMOTTO X5 M12 SR

CODED NON-CONTACT ELECTRO-MECHANICAL SAFETY SWITCH TO CONTROL MACHINE GUARDS

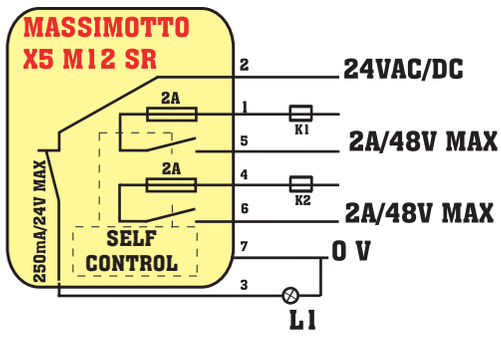
- ➔Automatic built-in self-checking
- ➔Without manual reset (with automatic reset)
- ➔With single M12 connector
- ➔Switching distance/hysteresis : 8 mm/3 mm
- ➔LED indication of actuator presence
- ➔Polycarbonate housing
- ➔Power supply : 24 V ac/dc -15% /+10% 50 /60 Hz
- ➔Waterproof IP67/Temperature -20°C to +60°C
- ➔Auxiliary output : NC PNP/250 mA



SAFETY CATEGORY

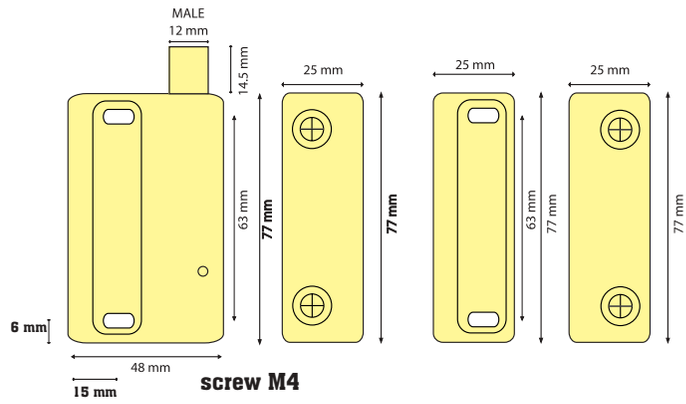
MASSIMOTTO X5 M12 SR : category 3 according to EN954-1/ EN 12100-2
MASSIMOTTO X5 M12 SR : category 4* in association with safety module.
*Regardless of number of switches in series.

WIRING DIAGRAM



cat.3

DIMENSIONS



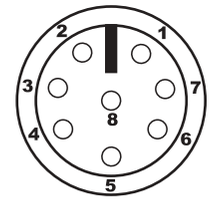
APPLICATION

Stand-alone safety switch, ideal for small machines with less than 4 doors and without electrical cabinet. A useful alternative for installation in series.

PIN DETAILS

Male input connector:
1 white NO1
2 brown 24V
3 green AUX PNP NF
4 yellow NO2
5 grey NO1
6 pink NO2
7 blue 0V
8 red nc
(nc: not connected)

INM



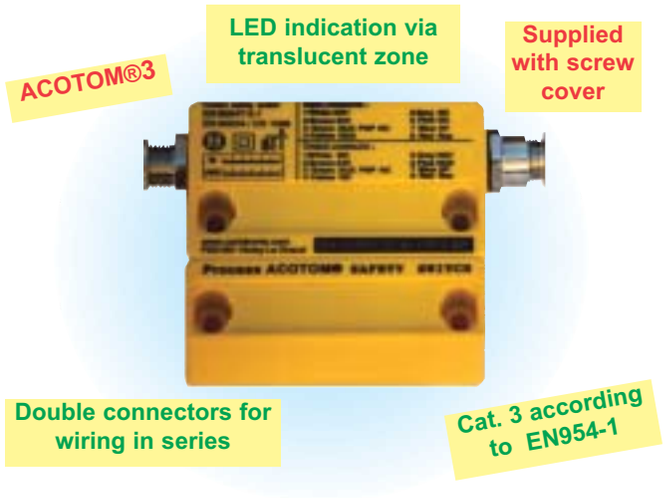
PROCESS ACOTOM®

STAND-ALONE safety switch without safety module

MASSIMOTTO X5.2 M12 AR

CODED NON-CONTACT ELECTRO-MECHANICAL SAFETY SWITCH TO CONTROL MACHINE GUARDS

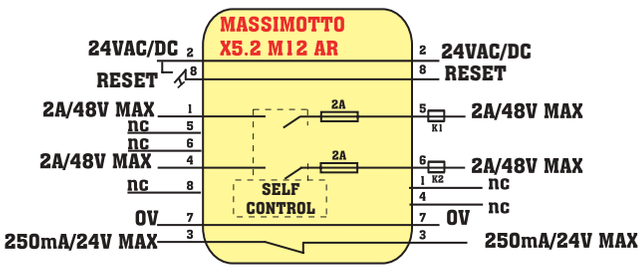
- ➔Automatic build-in self-checking
- ➔With input for manual reset
- ➔With double M12 connectors
- ➔Switching distance/hysteresis : 8 mm/3 mm
- ➔LED indication of actuator presence
- ➔Polycarbonate housing
- ➔Power supply : 24 V ac/dc -15% /+10% 50 /60 Hz
- ➔Waterproof IP67/Temperature -20°C to +60°C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



SAFETY CATEGORY

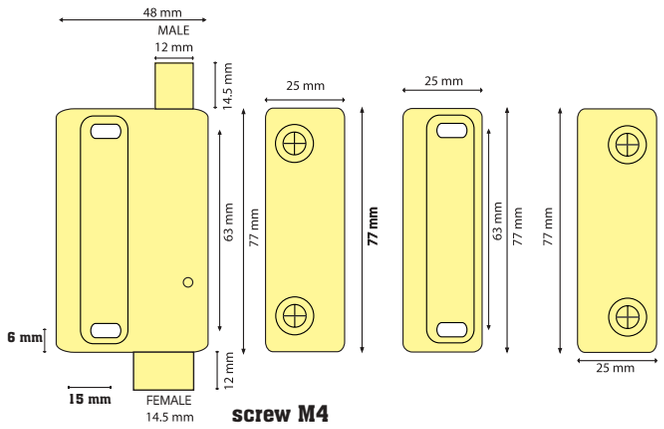
MASSIMOTTO X5.2 M12 SR : category 3 according to EN954-1/ EN 12100-2
MASSIMOTTO X5.2 M12 SR : category 4* with safety module
*Regardless of number of switches in series

DIAGRAM



cat.3

DIMENSIONS



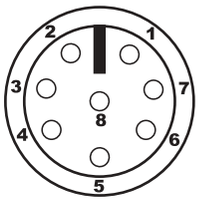
APPLICATION

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

PIN DETAILS OF CONNECTOR

Male input connector:
1 white NO1
2 brown 24V
3 green AUX NC
4 yellow NO2
5 grey nc
6 pink nc
7 blue 0V
8 red RESET
(nc: not connected)

INM



Female output connector:
1 white nc
2 brown 24V
3 green AUX NC
4 yellow nc
5 grey NO1
6 pink NO2
7 blue 0V
8 red RESET
(nc: not connected)

PROCESS ACOTOM®

STAND-ALONE safety switch without safety module

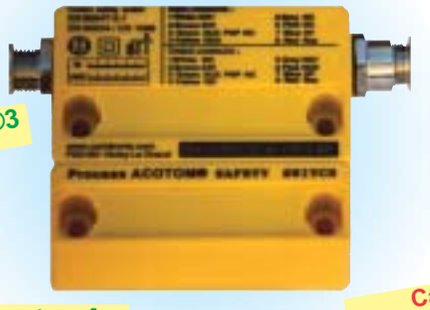
MASSIMOTTO X5.2 M12 SR

CODED NON-CONTACT ELECTRO-MECHANICAL SAFETY SWITCH TO CONTROL MACHINE GUARDS

- ➔Automatic built-in self-checking
- ➔Without manual reset
- ➔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
- ➔Response time : 10 ms

LED incorporated and viewed via a translucent zone

Supplied with screw cover



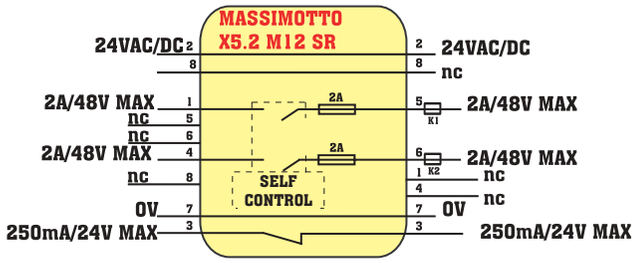
Double connectors for wiring in series

Cat. 3 according to EN954-1

SAFETY CATEGORY

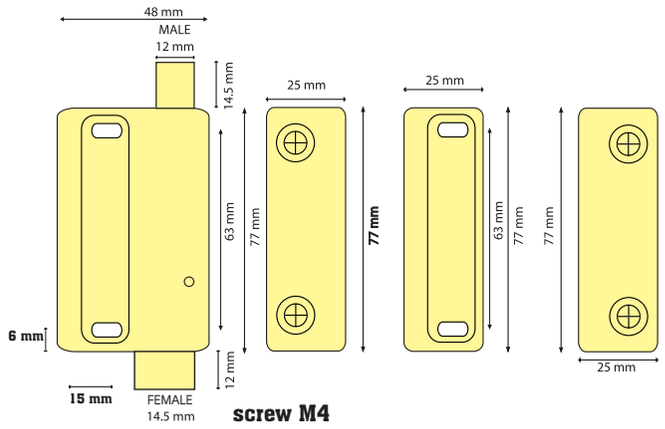
MASSIMOTTO X5.2 M12 SR : category 3 according to EN954-1/ EN 12100-2
MASSIMOTTO X5.2 M12 SR : category 4* with safety module
*Regardless of number of switches in series.

WIRING DIAGRAM



cat.3

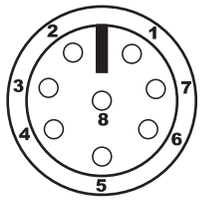
DIMENSIONS



PIN DETAILS

Male input connector :
1 white NO1
2 brown 24V
3 green AUX NC
4 yellow NO2
5 grey nc
6 pink nc
7 blue 0V
8 red nc
(nc: not connected)

INM



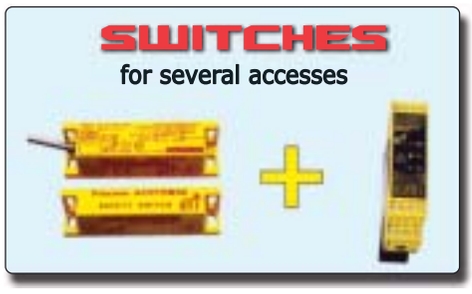
Female output connector:
1 white nc
2 brown 24V
3 green AUX NC
4 yellow nc
5 grey NO1
6 pink NO2
7 blue 0V
8 red nc
(nc: not connected)

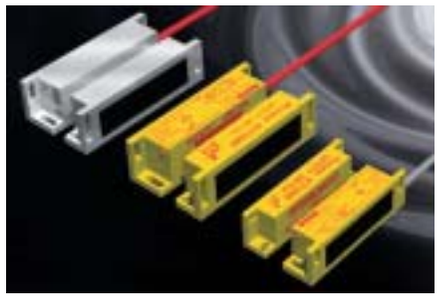
APPLICATION

Controls machine guards without any safety module. Enables a quick and easy wiring in series.

COMITRONIC

SUMMARY Non stand-alone safety switch





Solution for machines with 3-30 doors to be protected or these with strong vibrations

COMITRONIC

3 years warranty

CENTRALISED ACCESS CONTROL

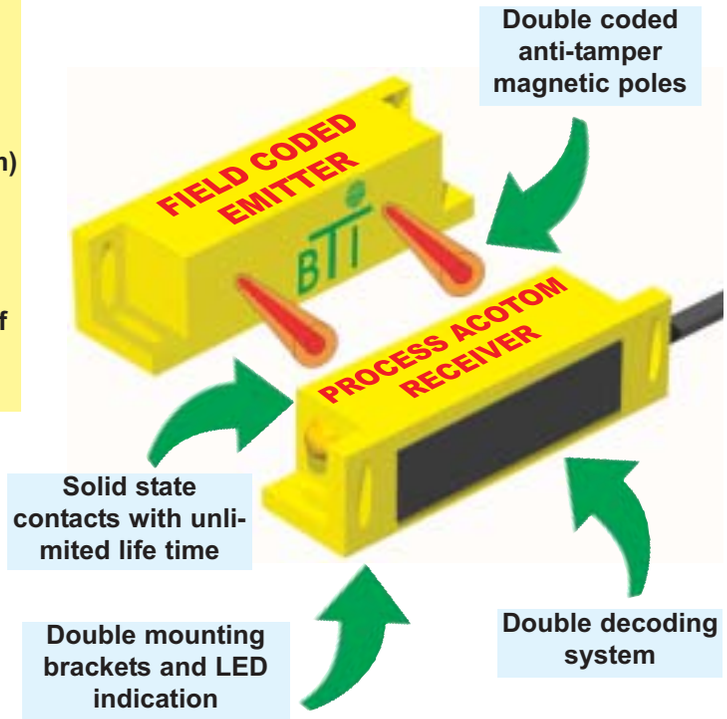
ONE SAFETY SOLUTION FOR MULTI ACCESS AREA

AN ECONOMICAL SOLUTION

➔ **The ACOTOM®2 process**

- High coding power with dual channel
- Ideal solution for vibrating environment
- Safety category : from 2 to 4
- High misalignment authorised in all axis (+/-7mm)
- High detection distance (10mm or more up request)
- Constant small hysteresis < 2mm
- Up to 30 switches connected in series
- LED and auxiliary line showing the exact state of the coding system
- An external AWAX module is needed

ELECTRONIC SAFETY SWITCH ANATOM

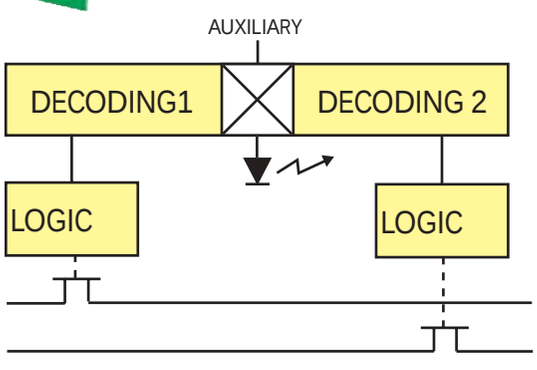


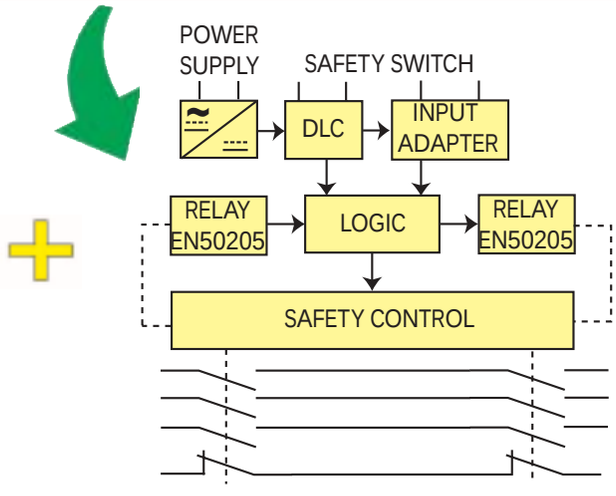
The ACOTOM®2 process

A global safety solution

Resists even to shocks stronger than 30G

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



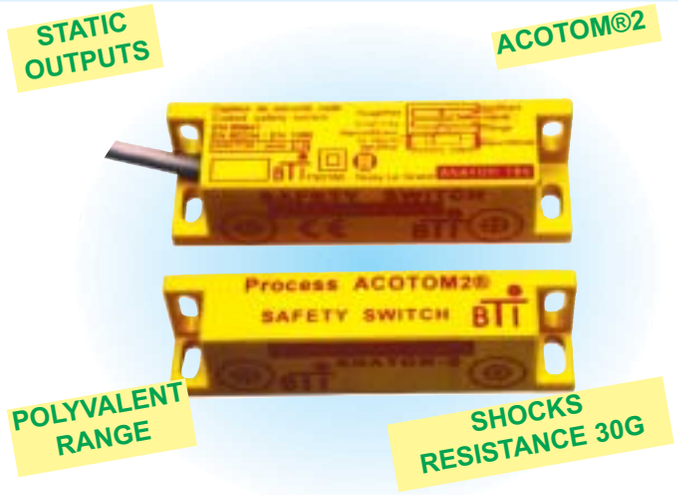


UL/CSA approval

ANATOM 6S-78S-98S WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH FOR MOVING PROTECTORS OF DANGEROUS MACHINES

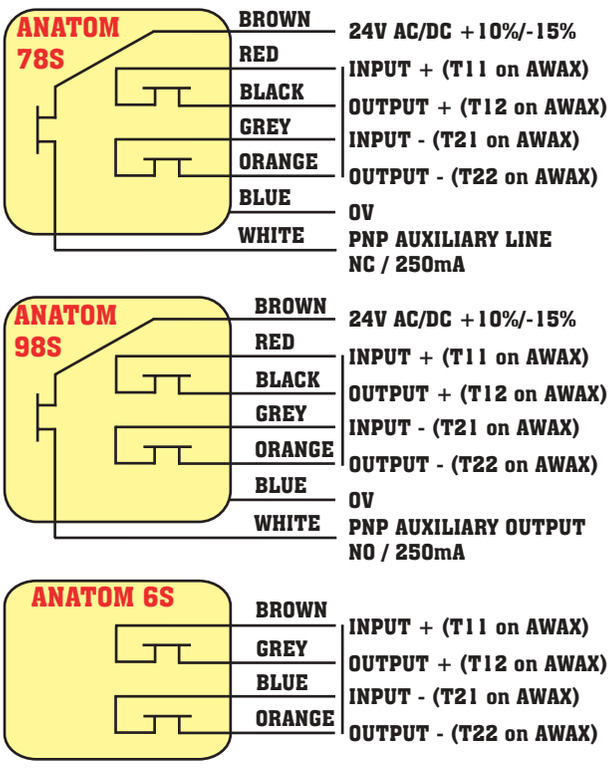
- Decoding by Acotom2 process
- Misalignment : ±7 mm of length
- Detecting distance/hysteresis : 10 /+2 (mm)
- Auxiliary output for automation control
- LED indication of switch condition
- Available with M12 connector (ANATOM78SMKT)
- Protection class IP67
- Temperature -20°C to +60°C



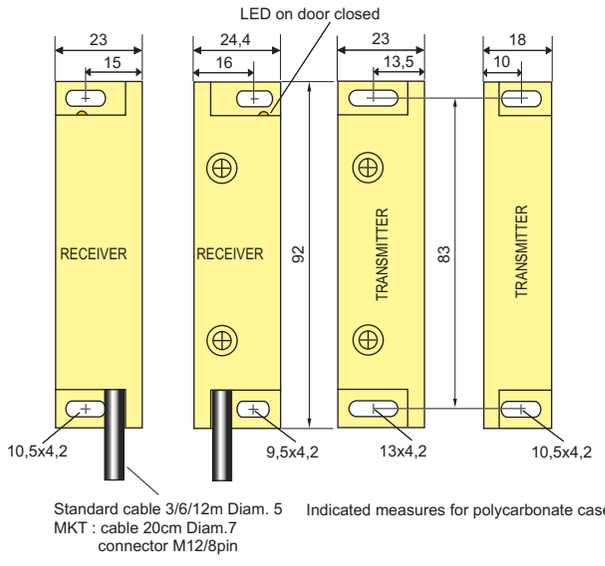
SAFETY CATEGORY

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

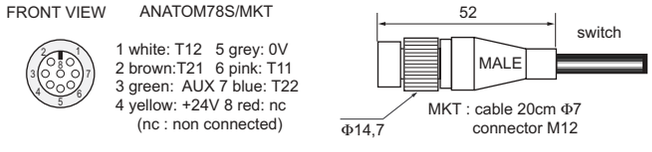
WIRING DIAGRAM



DIMENSIONS



PIN DETAILS OF MKT CONNECTOR



ADVICE

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 / INOX WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH IN STAINLESS STEEL FOR HARD ENVIRONMENT

- Decoding by Acotom®2 process
- Misalignment : ±7 mm of length
- Detecting distance/hysteresis : 10 /+2 (mm)
- Auxiliary output for automation control
- LED indication of switch condition
- Available with M12 connector ANATOM78S/INOX/MKT
- Protection class IP69K
- Temperature -20°C to +60°C

STATIC OUTPUT

SUITED FOR FOOD INDUSTRY

ACOTOM®2

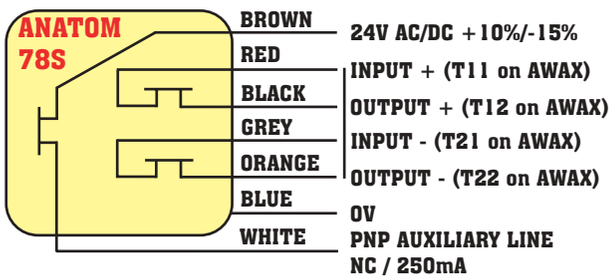
STAINLESS STEEL 316L LASER MARKING

SHOCKS RESISTANCE 30G

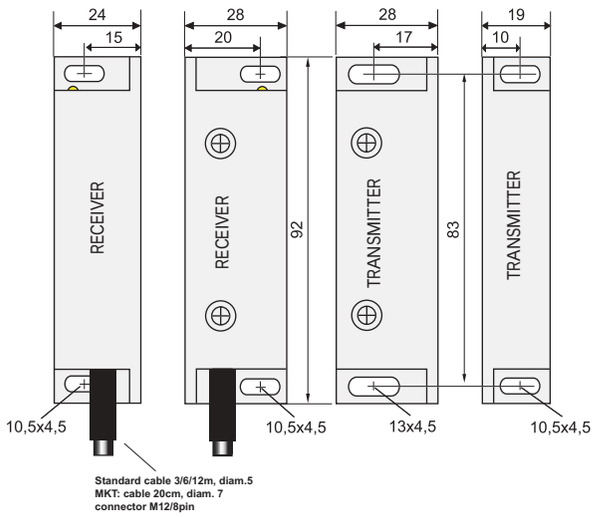
SAFETY CATEGORY

Anatom78S inox : EN60947-5-3
1 Anatom78S/ inox with Awax : category 4
Anatom78S/ inox in series with Awax : category 3

WIRING DIAGRAM



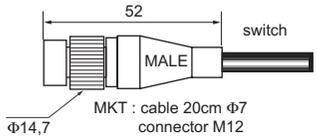
DIMENSIONS



PIN DETAILS

FRONT VIEW ANATOM78S/MKT

1 white: T12 5 grey: 0V
2 brown:T21 6 pink: T11
3 green: AUX 7 blue: T22
4 yellow: +24V 8 red: nc
(nc : non connected)

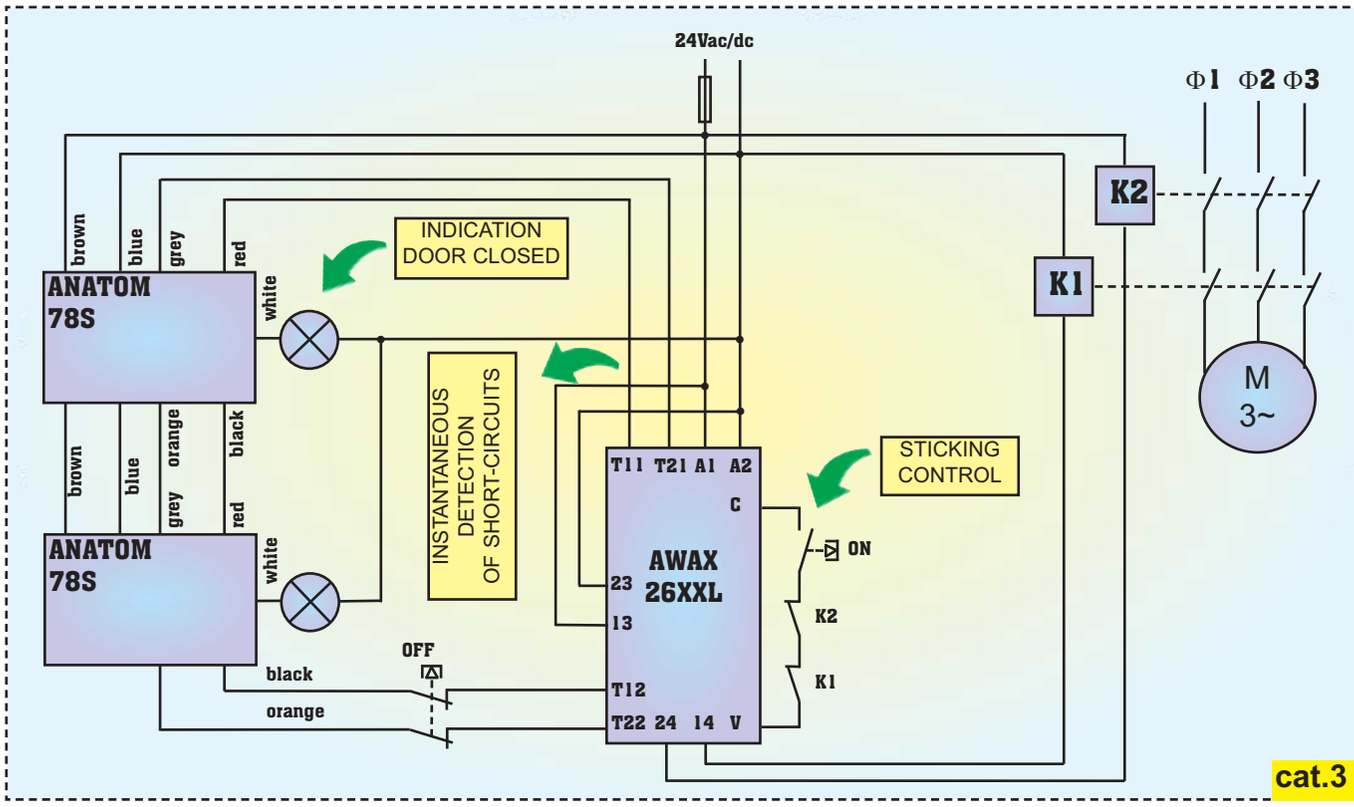


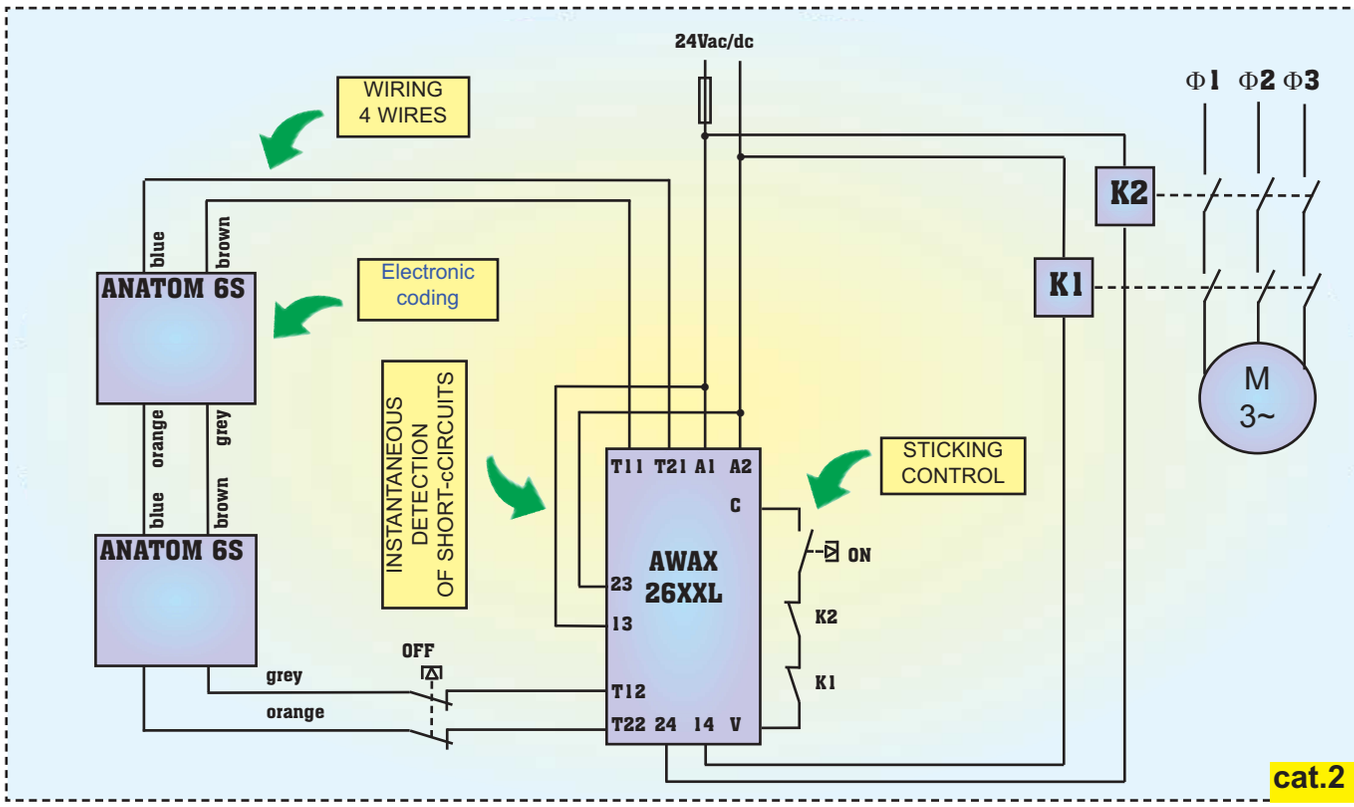
ADVICE

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

COMITRONIC

DIAGRAMS





ANATOM78S M12 WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH FOR THE CONTROL OF MACHINE GUARDS

- ➔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

ACOTOM®2

Tamperproof thanks to electronical decoding system

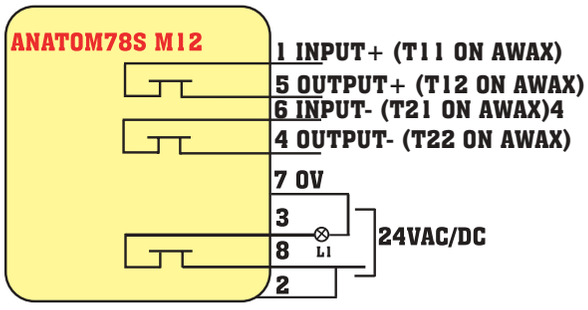
LED viewed via translucent zone

Quick wiring in series

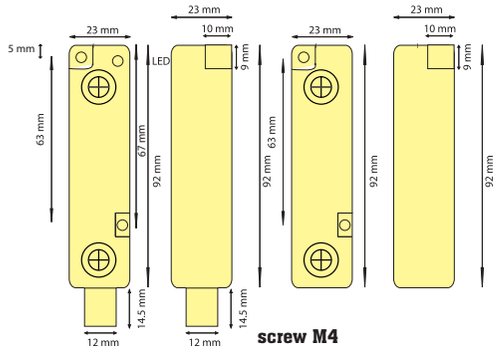
SAFETY CATEGORY

ANATOM78S M12 : EN60947-5-3
1 ANATOM78S M12 with Awax : category 4
ANATOM78S M12 in series with Awax : category 3

WIRING DIAGRAM



DIMENSIONS

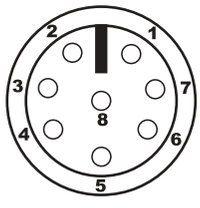


PIN DETAILS

Male input connector:
1 white T11
2 brown 24V
3 green AUX NC
4 yellow T21
5 grey T12
6 pink T22
7 blue 0V
8 red AUX NC

Accessory:
FKT M12 with
2 , 5 or 10m cable

INM



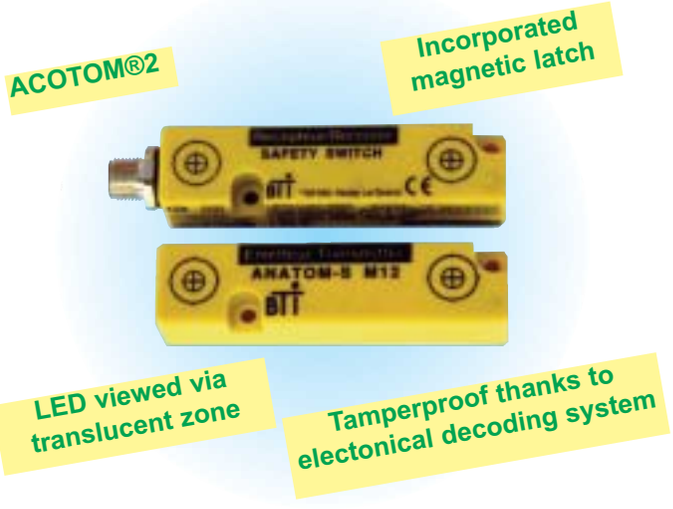
ADVICE

Ideal solution for quick and easy wiring in series.

ANATOM78S SRM M12 WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH WITH MAGNETIC LATCH FOR THE CONTROL OF MACHINE GUARDS

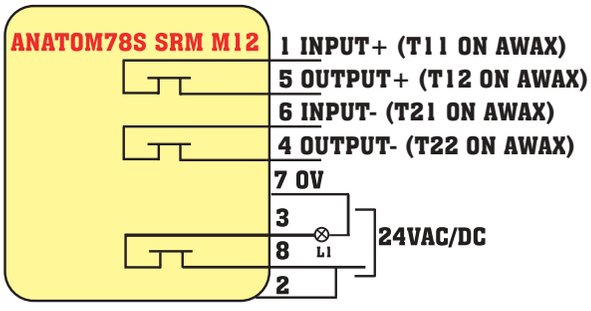
- Acotom2 decoding process
- Power supply: 24Vac/dc -15%/+10% or T11/T21 of AWAX
- Switching distance/hysteresis : 8 /3 mm
- Auxiliary contact : NC PNP(supply)/250mA
- Protection class IP67
- Temperature -20°C to +60°C
- Response time: 500µs
- Holding force: 500g



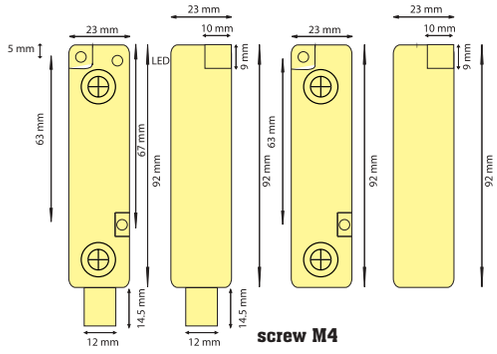
SAFETY CATEGORY

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

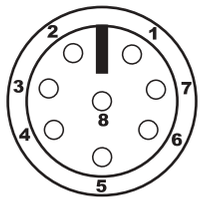


PIN DETAILS

Male input connector:
1 white T11
2 brown 24V
3 green AUX NC
4 yellow T21
5 grey T12
6 pink T22
7 blue 0V
8 red AUX NC

Accessory:
FKT M12 with
2 , 5 or 10m cable

INM



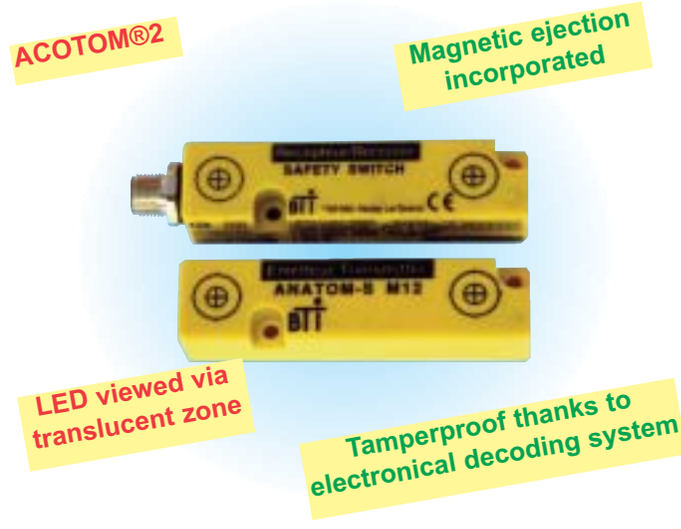
ADVICE

Ideal for quick wiring in series.

ANATOM78S SES M12 WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH WITH AUTOMATIC EJECTION FOR THE MOVING PROTECTORS OF DANGEROUS MACHINES

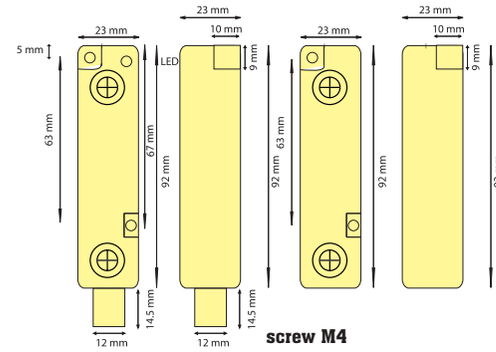
- Acotom®2 decoding process
- Power supply: 24Vac/dc -15%/+10% or T11/T21 of AWAX
- Automatic ejection when transmitter and receiver move near: Prevention of shocks if they touch each other
- Detection distance/hysteresis : 8/ 3mm
- Auxiliary contact : NC PNP (supply)/ 250mA
- Protection class IP67
- Temperature -20°C to +60°C
- Response time: 500µs



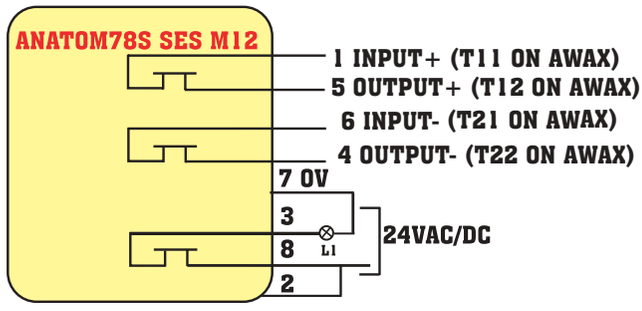
SAFETY CATEGORY

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

DIMENSIONS



WIRING DIAGRAM

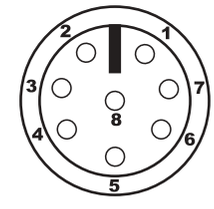


PIN DETAILS

Male input connector:
1 white T11
2 brown 24V
3 green AUX NC
4 yellow T21
5 grey T12
6 pink T22
7 blue 0V
8 red AUX NC

Accessory:
FKT M12 with
2 , 5 or 10 M cable

INM



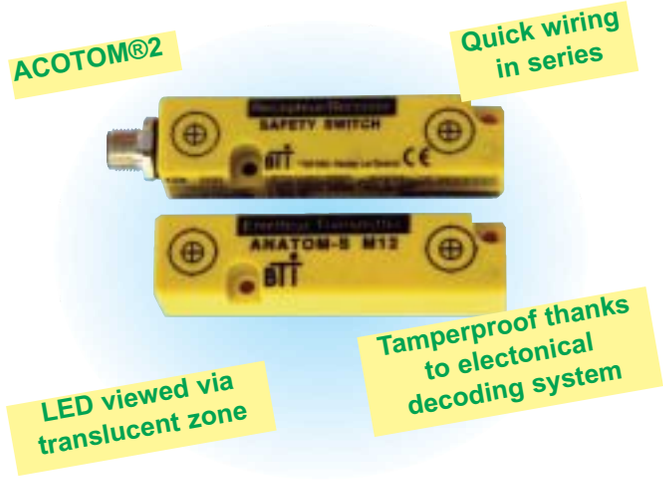
ADVICE

Ideal solution for quick wiring in series.

ANATOM6S M12 WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH FOR THE MOVING GUARDS OF DANGEROUS MACHINES

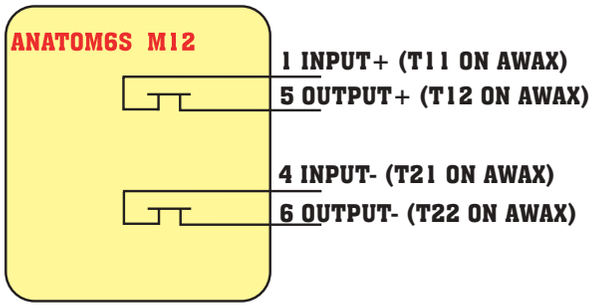
- Acotom®2 decoding process
- Power supply: 24Vdc -15%/+10%
- Switching distance/hysteresis : 8 /3 mm
- Safety contact: 1 contact NPN and PNP 24Vdc/500mA
- Protection class IP67
- Temperature -20°C / +60°C
- Response time: 500µs



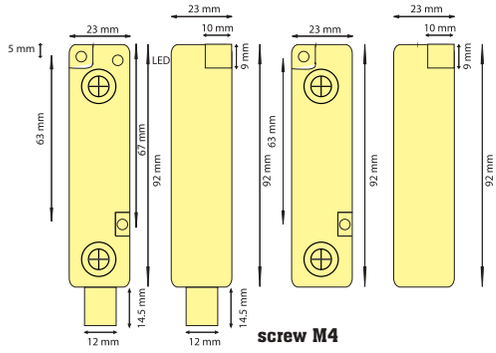
SAFETY CATEGORY

ANATOM6S M12 : EN60947-5-3
ANATOM6S M12 with Awax : category 4
ANATOM6S M12 in serie with Awax : category 3

WIRING DIAGRAM



DIMENSIONS

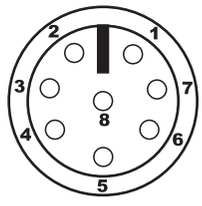


PIN DETAILS

Male input connector:
1 white T11
2 brown nc
3 green nc
4 yellow T21
5 grey T12
6 pink T22
7 blue nc
8 red nc

Accessory:
FKT M12 with
2 , 5 or 10 M cable

INM



ADVICE

Ideal solution for quick and easy wiring in series.

ANATOM98S M12

WITH Awax safety module

CODED NON-CONTACT SAFETY SWITCH FOR THE CONTROL OF MACHINE GUARDS

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

ACOTOM2

Tamperproof thanks to electonical decoding system

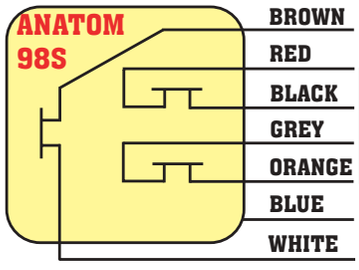
LED viewed via translucent zone

Quick wiring in series

SAFETY CATEGORY

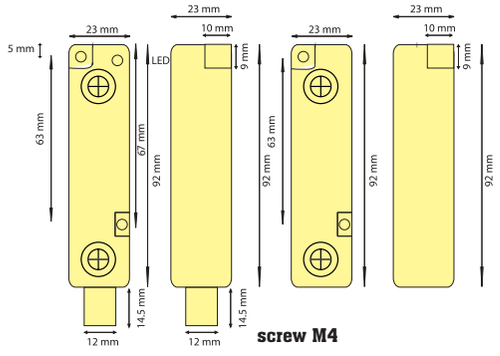
ANATOM98S M12 : EN60947-5-3
ANATOM98S M12 with Awax : category 4
ANATOM98S M12 in series with Awax : category 3

WIRING DIAGRAM



24V AC/DC +10%/-15%
INPUT + (T11 on AWAX)
OUTPUT + (T12 on AWAX)
INPUT - (T21 on AWAX)
OUTPUT - (T22 on AWAX)
0V
PNP AUXILIARY OUTPUT NO / 250mA

DIMENSIONS

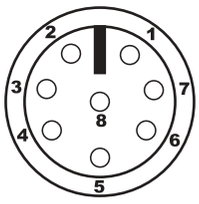


PIN DETAILS

Male input connector:
1 white T11
2 brown 24V
3 green AUX NO
4 yellow T21
5 grey T12
6 pink T22
7 blue 0V
8 red AUX NO

Accessory:
FKT M12 with
2 , 5 or 10 M cable

INM



ADVICE

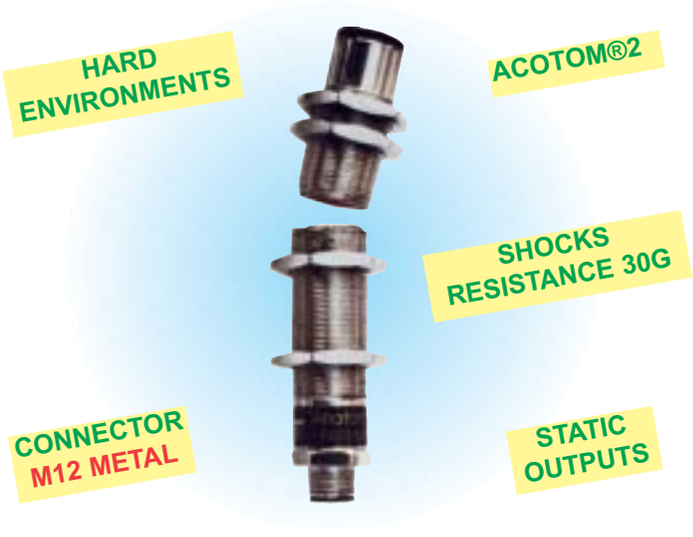
Ideal solution for quick and easy wiring in series.

ANATOM M18

WITH Awax safety module

NON-CONTACT AND CODED ELECTRONIC SWITCH FOR THE POSITION CONTROL

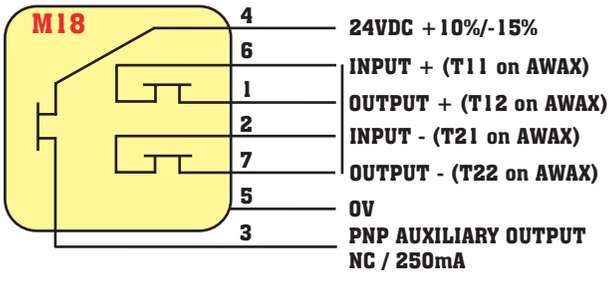
- Cylinder style M18
- Decoding by Acotom®2 process
- Misalignment : ±30° in rotating movement
- Detection distance/ hysteresis : 6 /+2 (mm)
- Auxiliary output for automation control or lights
- Metal housing CuNi
- Robust in metal housing with M12 connector
- Protection class IP67
- Temperature: -20°C to +60°C
- Unlimited life expectancy (unlimited number of operations)

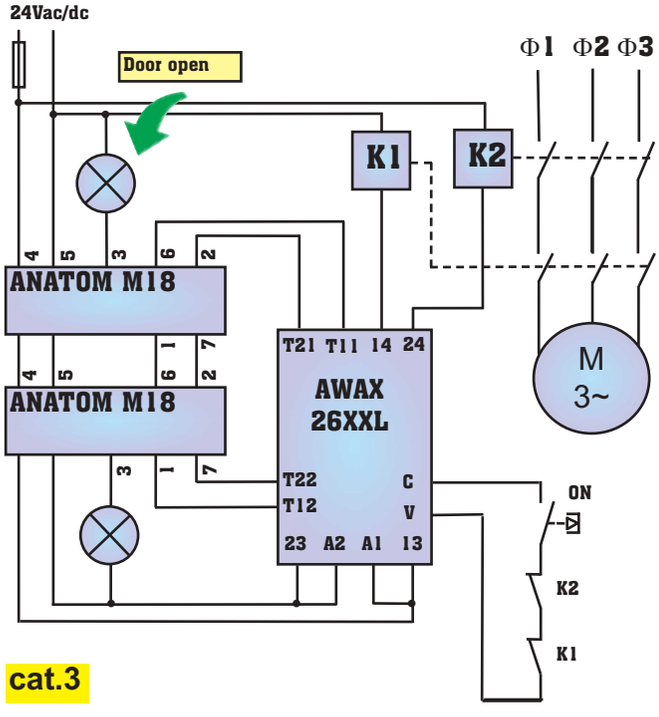


SAFETY CATEGORY

ANATOM M18 : EN60947-5-3
ANATOM M18 with Awax : category 4
ANATOM M18 in series with Awax : category 3

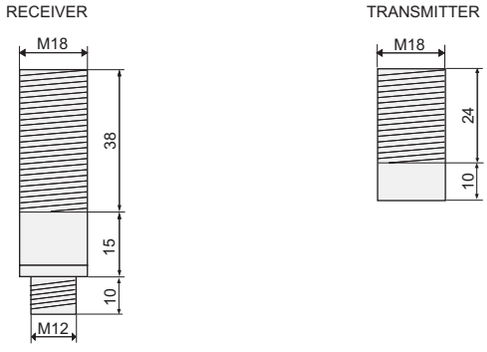
WIRING DIAGRAM

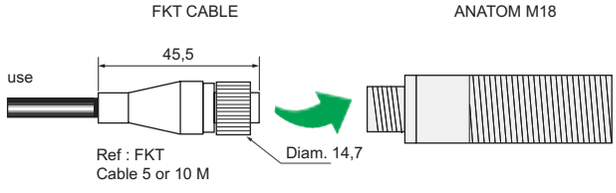




cat.3

DIMENSIONS





FKT CABLE	FRONT VIEW		FRONT VIEW	ANATOM-M18
	1 white	5 grey		1 white: T12 5 grey: 0v
	2 brown	6 pink		2 brown: T21 6 pink: T11
	3 green	7 blue		3 green: AUX 7 blue: T22
	4 yellow	8 red		4 yellow: +24V 8 red: nc
				(nc : non connected)

ADVICE

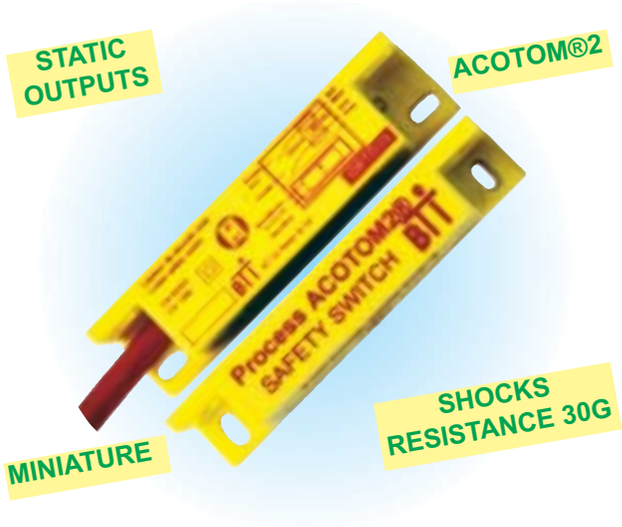
Up to 30 switches with one AWAX safety module. Robust switch in metal housing. Quick mounting thanks to the connector. Adapted to strong vibrations and high speed machines.

OPTOPUS DEC

WITH Awax safety module

NON-CONTACT AND CODED ELECTRONIC SWITCH FOR THE POSITION CONTROL

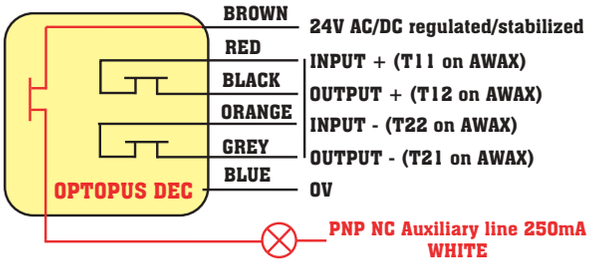
- Suited for small access area
- Decoding by Acotom®2 process
- Misalignment : ±3 mm up/down and left/right
- Detection distance/hysteresis : 5 /+2 (mm)
- LED indication of switch condition
- Mounting brackets and moulded cable
- Polycarbonate housing
- Protection class IP67
- Temperature -20°C to +60°C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

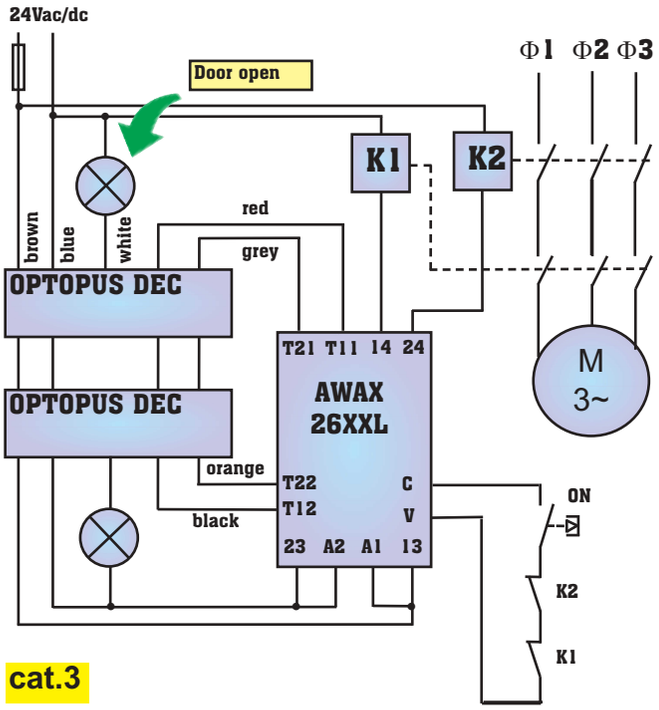


SAFETY CATEGORY

OPTOPUS : EN60947-5-3
1 OPTOPUS with Awax : category 4
OPTOPUS in series with Awax : category 3

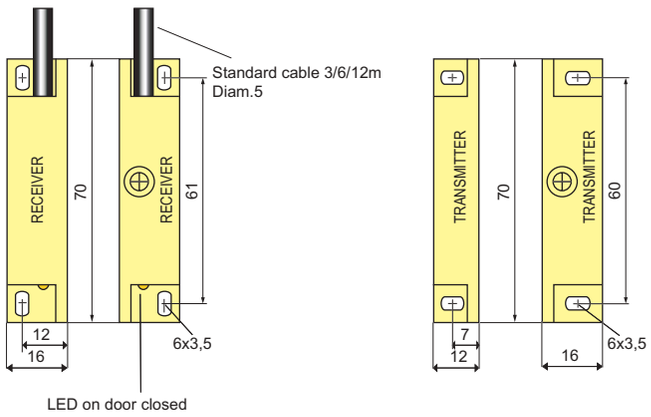
WIRING DIAGRAM





cat.3

DIMENSIONS



ADVICE

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

OPTOPUSC M8

WITH Awax safety module

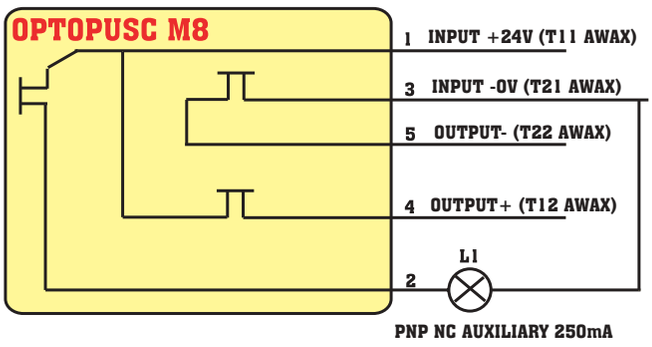
CODED NON-CONTACT SAFETY SWITCH FOR THE MOVING GUARDS OF DANGEROUS MACHINES

- 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

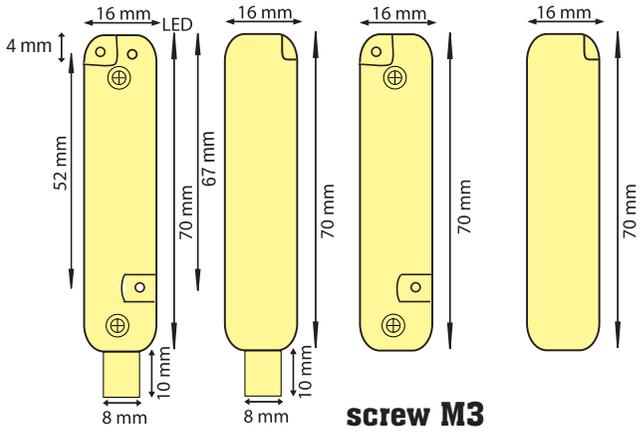
SAFETY CATEGORY

optopusc M8 : EN60947-5-3
optopusc M8 with Awax : category 4
optopusc M8 in series with Awax : category 2

WIRING DIAGRAM



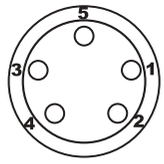
DIMENSIONS



PIN DETAILS

Male input connector :
1 brown 24V (T11)
2 white AUX PNP NC
3 blue 0V (T21)
4 black PNP (T12)
5 grey NPN (T22)

INM



ADVICE

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

TRITHON

WITH Awax safety module

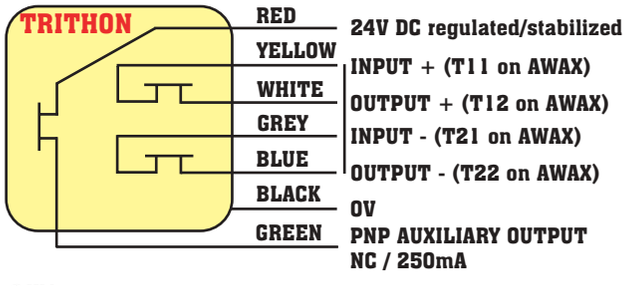
ELECTRONIC CODED NON-CONTACT SAFETY SWITCH ADAPTED TO HIGH TEMPERATURE

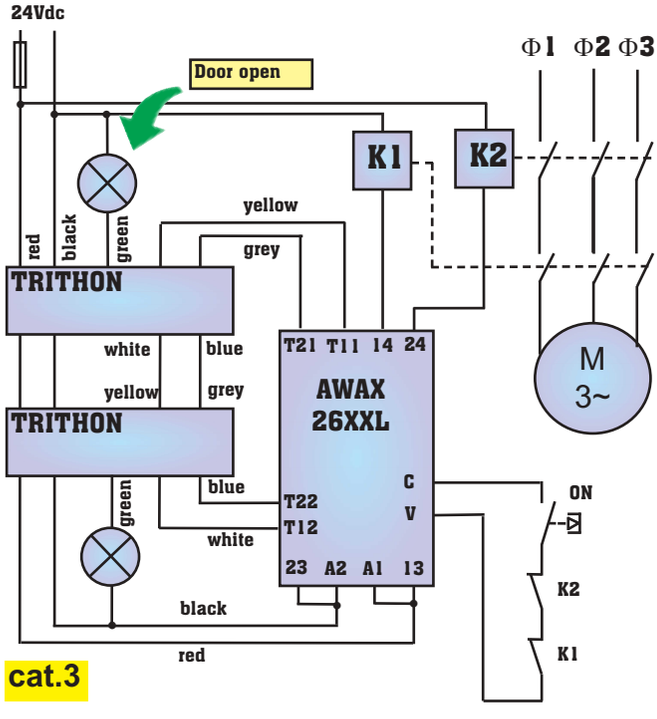
- Decoding by Acotom®2 process
- Misalignment : ±30° in rotation
- Detection distance /hysteresis : 9 /+2 (mm)
- Moulded cable
- Auxiliary output for automation control or lights
- Stainless steel 316L housing
- Laser marking
- Protection class IP69K
- Temperature -20°C to +110°C
- Unlimited life expectancy (unlimited number of operations)

SAFETY CATEGORY

Trithon : EN60947-5-3
1 Trithon with Awax : category 4
Trithon in series with Awax : category 3

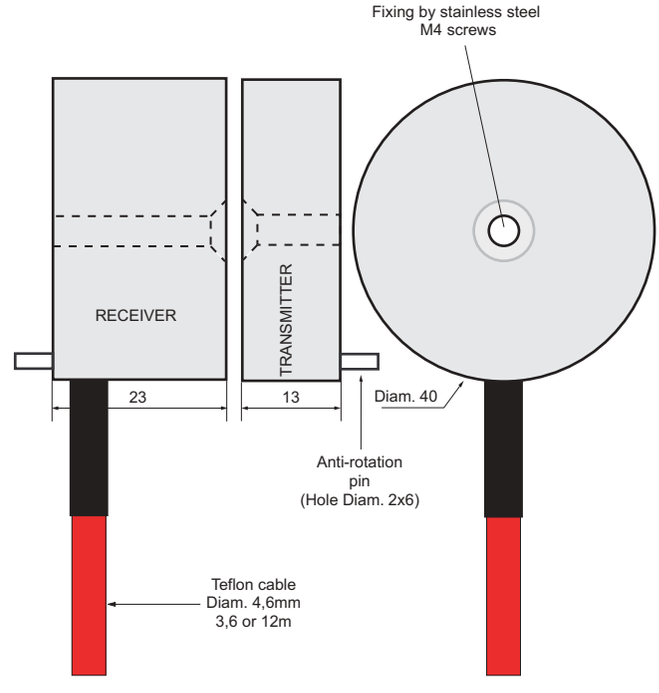
WIRING DIAGRAM





cat.3

DIMENSIONS



ADVICE

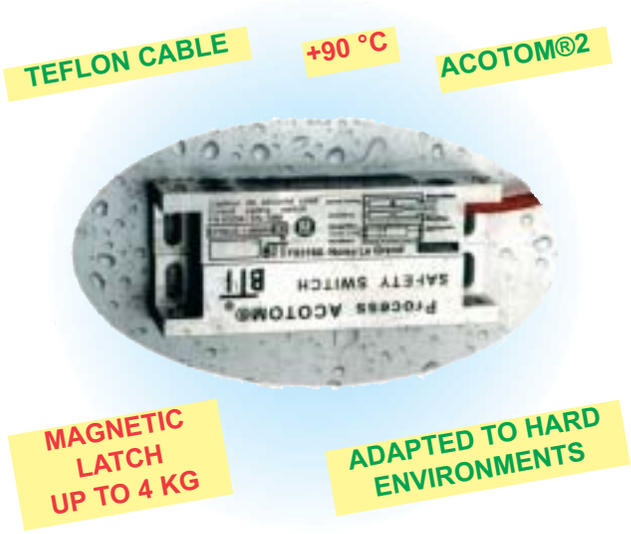
Up to 30 switches with one AWAX module.
Adapted to high temperatures (sterilisation), laser markings. Resists to chlorine and acids, may get in touch directly with dairy products.

EPINUS

WITH Awax safety module

CODED SWITCH WITH INTEGRATED MAGNETIC LATCH FOR MOVING GUARDS OF DANGEROUS MACHINES

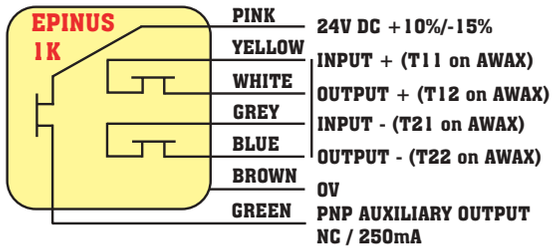
- Magnetic latch 1, 2, or 4 Kg
- Decoding by Acotom®2 process
- Auxiliary output for automation control or lights
- Polycarbonate housing (EPINUS 1K)
- Stainless steel housing 316L (EPINUS 2K, 4K)
- Laser marking (on stainless steel housing)
- Protection class IP69K (EPINUS 2K and 4K)
- Temperature -20°C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

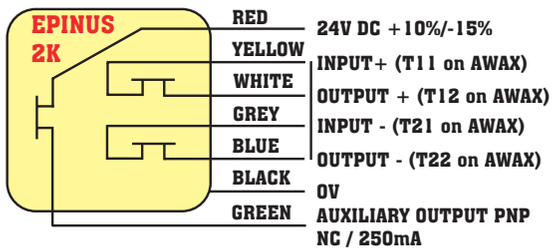


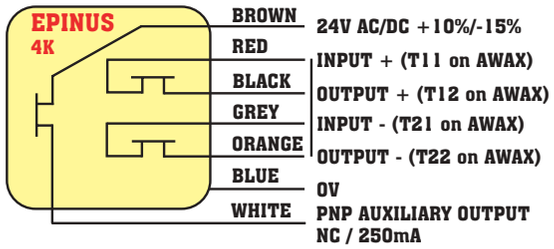
SAFETY CATEGORY

EPINUS : EN60947-5-1/2/3
1 EPINUS with Awax : category 4
EPINUS in series with Awax : category 3

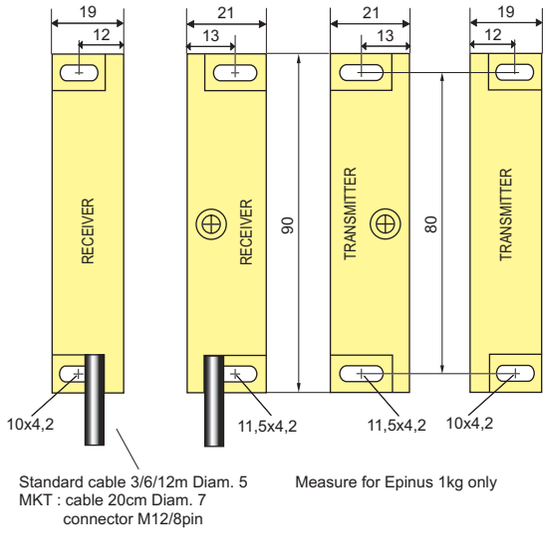
WIRING DIAGRAM







DIMENSIONS (VERSIONS 1K AND 2K)



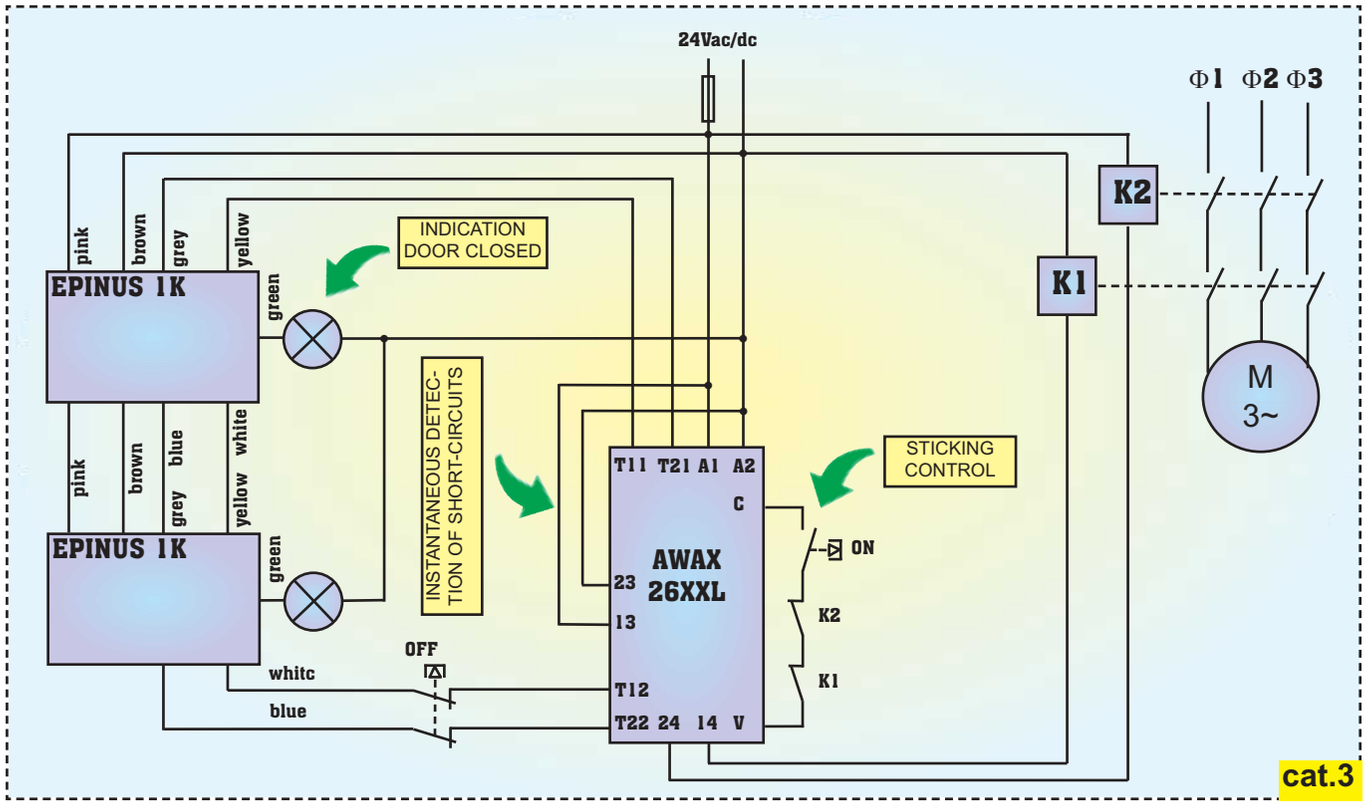
EPINUS 4K : see dimensions p.34

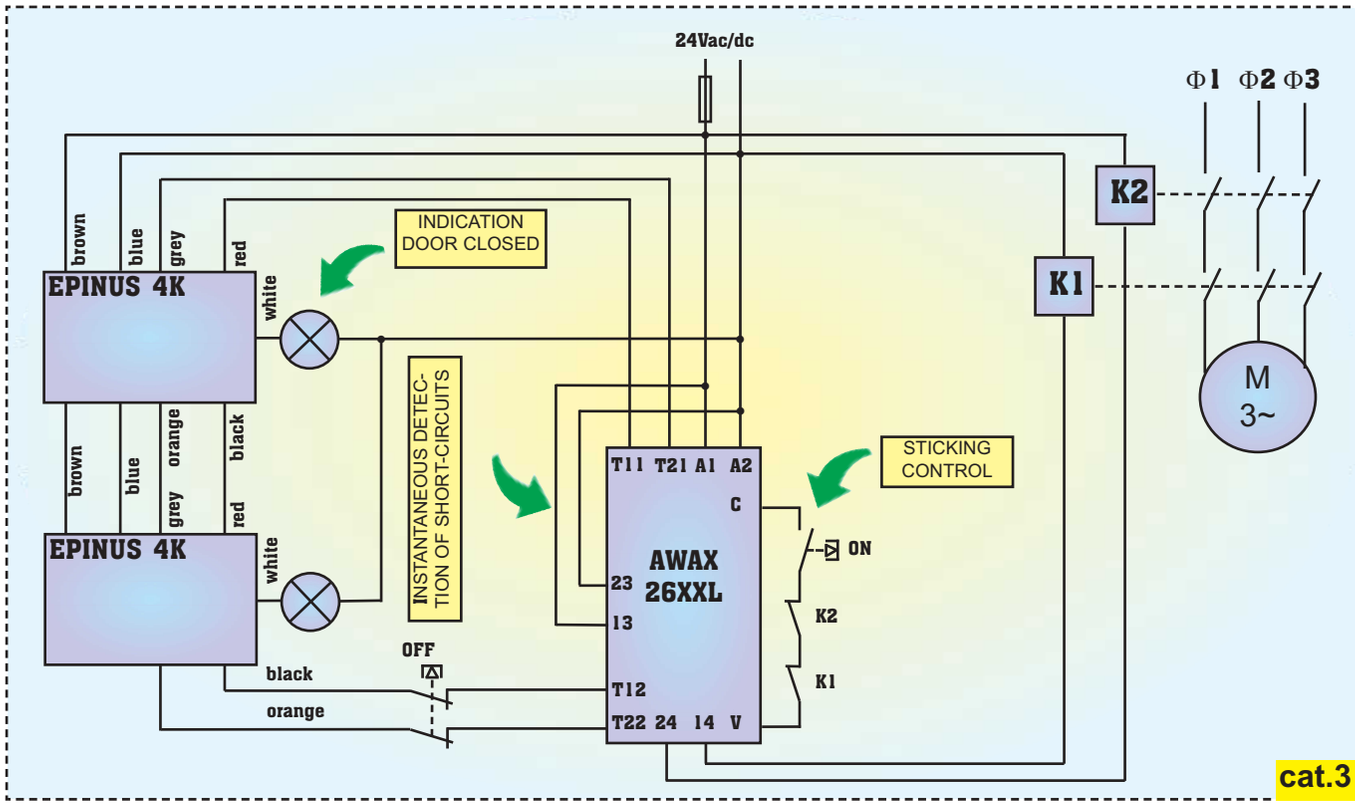
ADVICE

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

COMITRONIC

DIAGRAMS





WITH Awax safety module

MASSIMOTTO ANA78S.2 M12

CODED NON-CONTACT SAFETY SWITCH FOR THE CONTROL OF MACHINE GUARDS

- 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

ACOTOM®2

UL/CSA approval

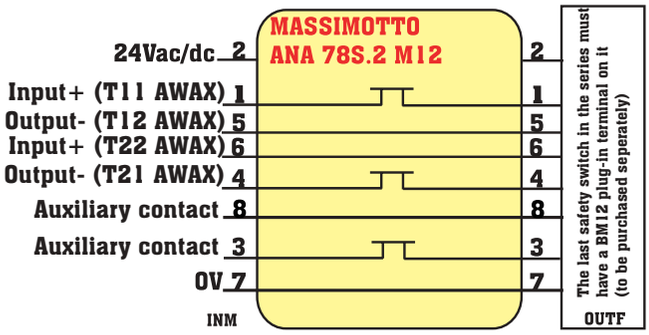
LED viewed via translucent zone

Supplied with screws cover NFENISO 12100-2:2003

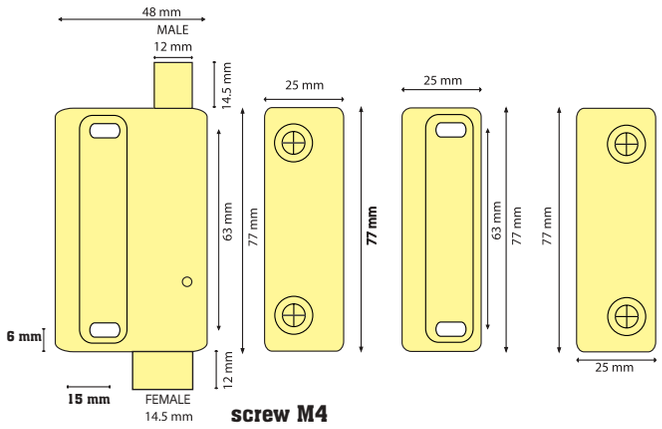
SAFETY CATEGORY

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

WIRING DIAGRAM



DIMENSIONS



PIN DETAILS

Male input connector:

1 white T11
2 brown 24V
3 green AUX
4 yellow T21
5 grey T12
6 pink T22
7 blue 0V
8 red AUX

INM

Female output connector :

1 white OUT+
2 brown 24V
3 green AUX+
4 yellow OUT-
5 grey link+
6 pink link-
7 blue 0V
8 red link AUX

ADVICE

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

WITH Awax safety module

MASSIMOTTO ANA98S.2 M12

CODED NON-CONTACT SAFETY SWITCH FOR THE CONTROL OF MACHINE GUARDS

- 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 NO 24Vac/dc /250mA
- Protection class IP67
- Temperature -20°C / +60°C
- Response time: 500µs

ACOTOM2

UL/CSA approval

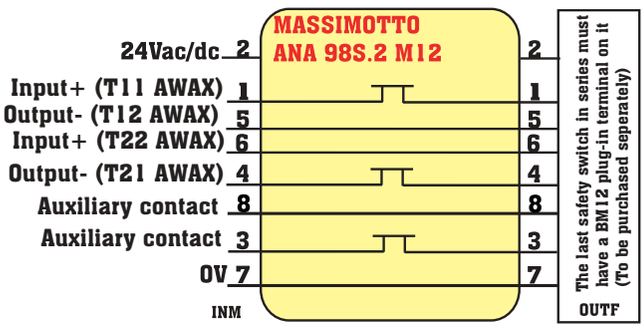
LED viewed via translucent zone

Supplied with screws cover NFENISO 12100-2:2003

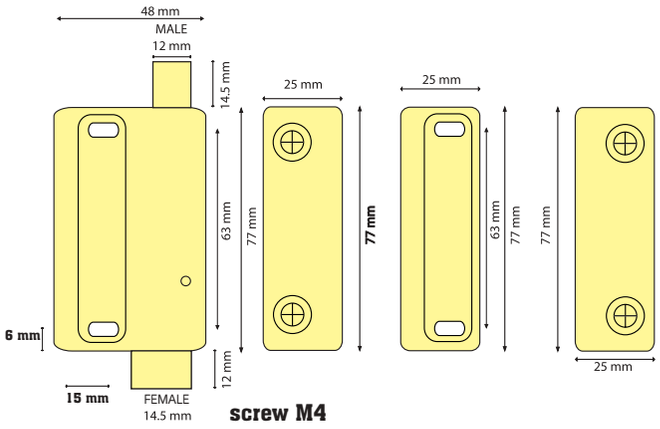
SAFETY CATEGORY

MASSIMOTTO ANA98S.2 M12 : EN60947-5-3
MASSIMOTTO ANA98S.2 M12 with Awax : category 4
MASSIMOTTO ANA98S.2 M12 in series with Awax : category 3

WIRING DIAGRAM



DIMENSIONS

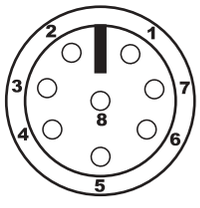


PIN DETAILS

Male input connector:

1 white T11
2 brown 24V
3 green AUX
4 yellow T21
5 grey T12
6 pink T22
7 blue 0V
8 red AUX

INM



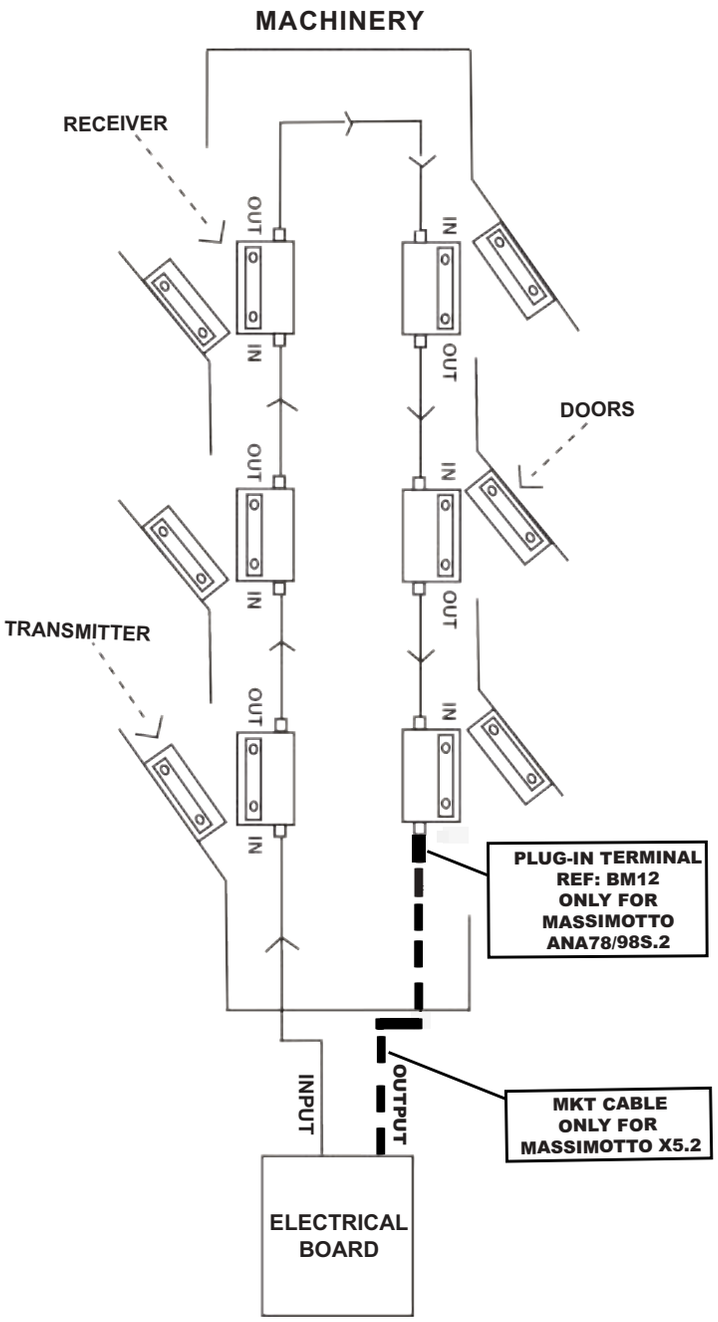
Female output connector :

1 white OUT+
2 brown 24V
3 green AUX+
4 yellow OUT-
5 grey link+
6 pink link-
7 blue 0V
8 red link AUX

ADVICE

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

APPLICATION FOR MASSIMOTTO WITH DOUBLE CONNECTORS

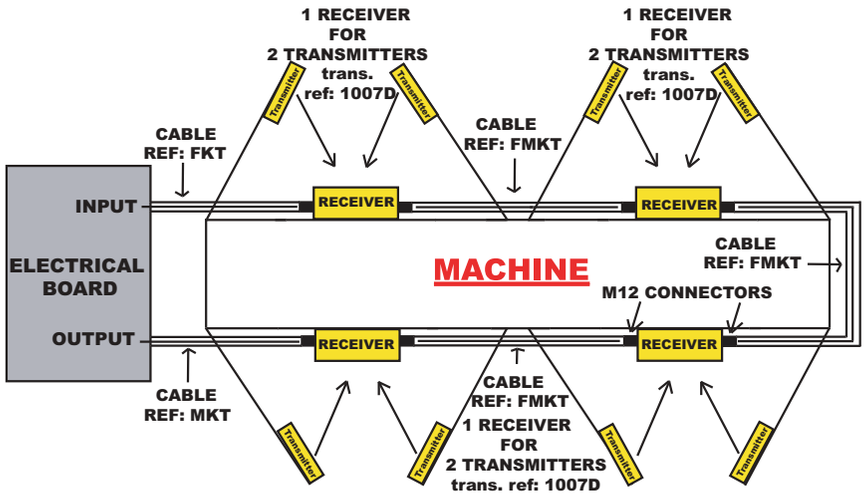


MASSIMOTTO DOUBLE TRANSMITTERS

MASSIMOTTO SAFETY SWITCH WITH DOUBLE TRANSMITTERS FOR DOUBLE DOORS

1

SAFETY SWITCH WITH DOUBLE TRANSMITTERS AND DOUBLE CONNECTORS



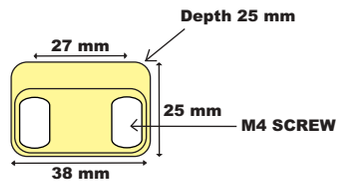
One switch with double transmitters:

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

1

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

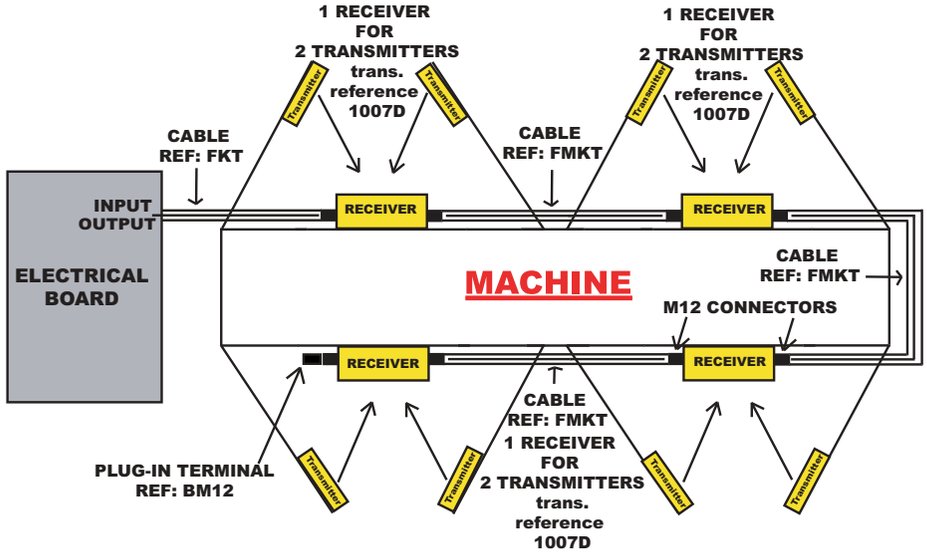
2



➔1 receiver
➔2 transmitters
➔To simplify the wiring in series
➔Economical solution for double doors

2

SAFETY SWITCH WITH DOUBLE TRANSMITTERS AND DOUBLE CONNECTORS



SUPER MAGNET

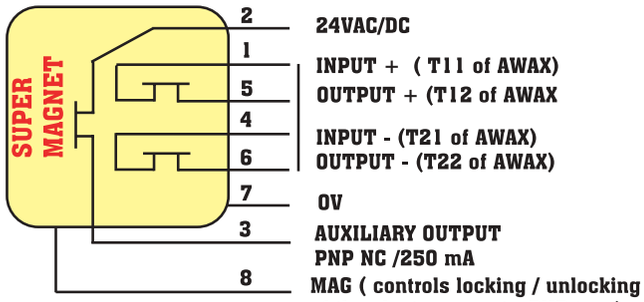
NON-CONTACT LOCKING DEVICE WITH CODED SAFETY SWITCH INTEGRATED

- ➔R version : - Power on locking
  - Latch force 50daN (dc)
  - Latch force 10daN (ac)
- ➔ E version : - Power off locking
  - Latch force 30daN
- ➔ Detection of door's opening by ACOTOM®2 process (see page 41)
- ➔ 2 static contacts for monitoring with AWAX
- ➔ 1 auxiliary contact: compatible with PLC
- ➔ Connector M12 incorporated
- ➔ Protection class: IP65

SAFETY CATEGORY

SUPER MAGNET : EN60947-5-3

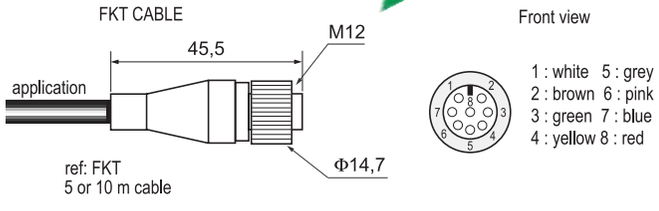
WIRING DIAGRAM



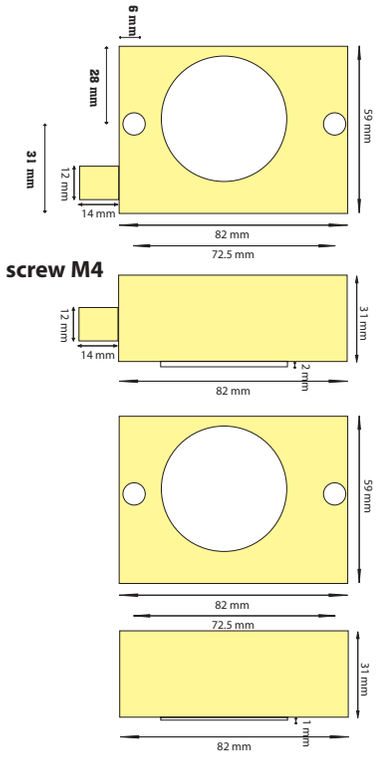
FRONT VIEW SUPER MAGNET

1 white : T11 5 grey :T12
2 brown : 24V 6 pink : T22
3 green : AUX 7 blue : 0V
4 yellow : T21 8 red : MAG

ADVICE **5 or 10m of cable with female connector:**
-Protection class IP67
-Ref: FKT-5M or FKT-10M



DIMENSIONS

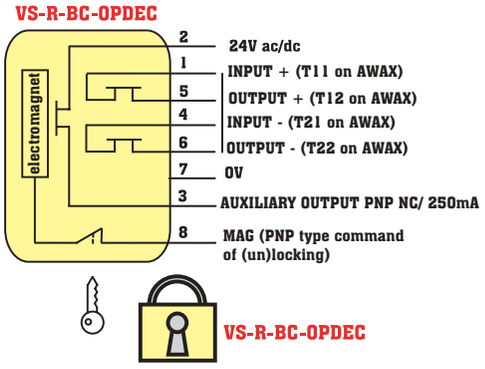


APPLICATION

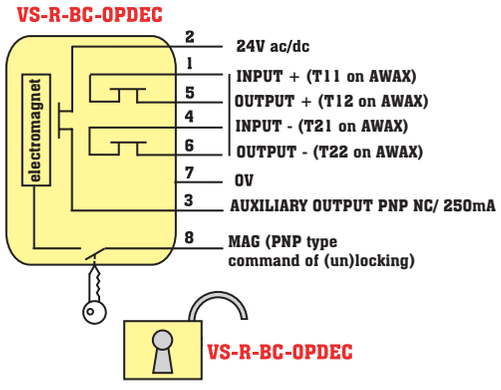
Double functions: holding of movable machine guards and control of its opening with the ACOTOM® decoding process.

SUPER MAGNET WITH KEY

VS-R-BC-OPDEC

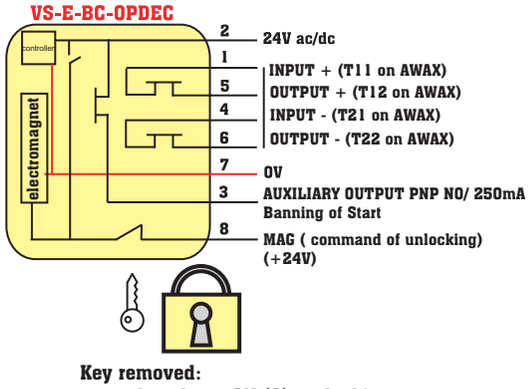


Key removed:
- supply voltage ON: locking
- supply voltage OFF: unlocking

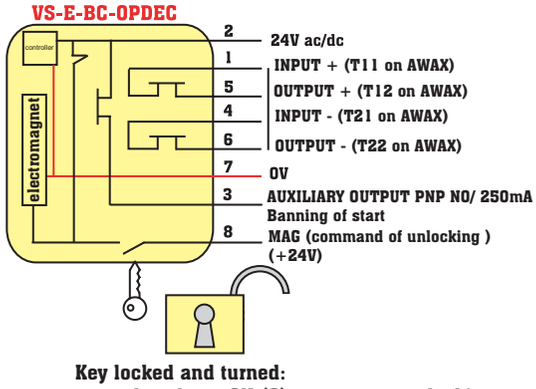


Key locked and turned:
- Supply voltage ON or OFF: unlocking

VS-E-BC-OPDEC

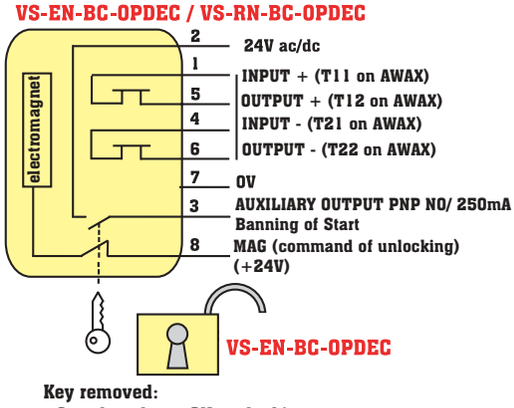


Key removed:
- supply voltage ON (8): unlocking
- supply voltage OFF (8): locking



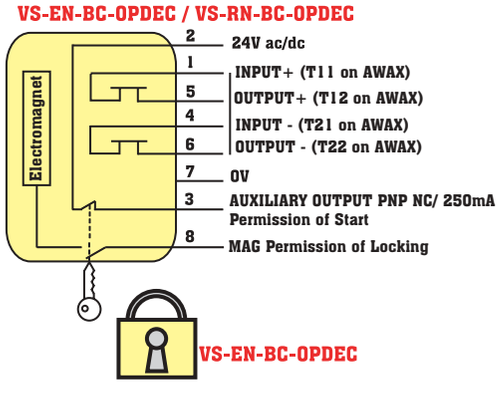
Key locked and turned:
- supply voltage ON (2): permanent unlocking

VS-EN-BC-OPDEC / VS-RN-BC-OPDEC



Key removed:
- Supply voltage ON: unlocking

Key removed:
- Supply voltage ON: locking



Key locked and turned:
- supply voltage ON or OFF: locking

Key locked and turned:
- supply voltage ON or OFF: unlocking

VS-E TYPE: MACHINE SAFETY
VS-R TYPE: FIRE PROTECTION

ACCESSORIES

COMPONENTS / CABLES

➔**BH4**
4 Stainless steel screws M4x20 with untampered head

➔**OBH4**
4 Stainless steel screws M4x20 with untampered head with 1 screwdriver

➔**RX4**
4 Stainless steel washers for BTI switches

➔**CABLE WITH M12 and M8 CONNECTOR**
- M12: - FKT (cable with female connector)
- MKT (cable with male connector)
- FMKT (cable with male and female connectors)

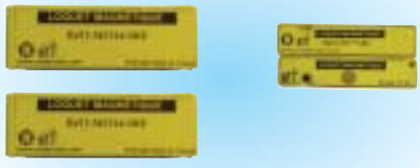
- M8: - FKT (cable with female connector)

Cable available in 2, 5 and 10 meters.

➔**OM5 (orange) /GM5 (grey)**
Handle + Stainless steel 316L back plate for Epinus 4K and Boster

➔**Plug-in terminal M12, ref: BM12**
for MASSIMOTTO ANA78S.2 M12, MASSIMOTTO ANA98S.2 M12.
Also available for BDM junction box.

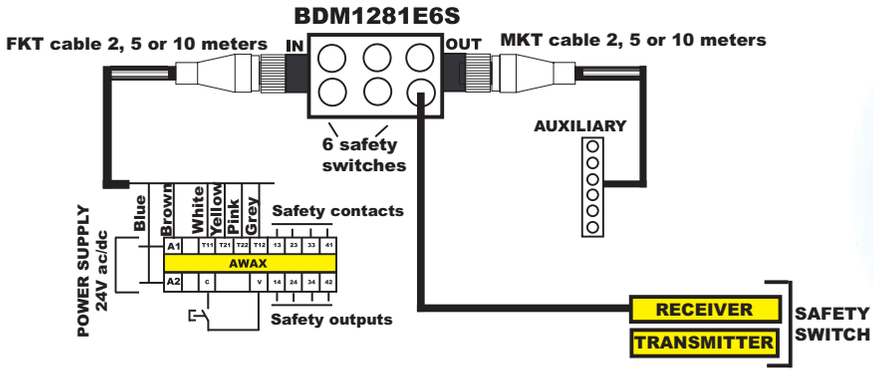
➔**Magnetic Latching: 300g and 2kgs available.**



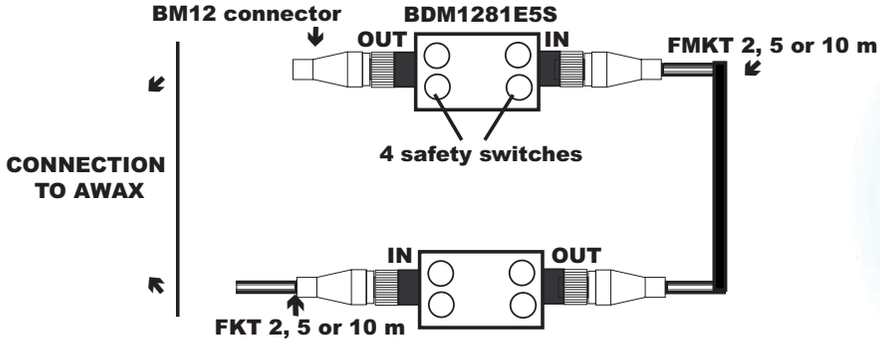
ACCESSORIES

JUNCTION BOXES

➔ **BDM1281E6S:**
This module allows you to wire up to 6 ANATOM78SM12 or ANATOM98SM12 in series and to retrieve independently the auxiliary line of each safety switch.



➔ **BDM1281E5S:**
This module allows you to wire up to 32 ANATOM78SM12 or ANATOM98SM12 in series using up to 8 junction boxes.

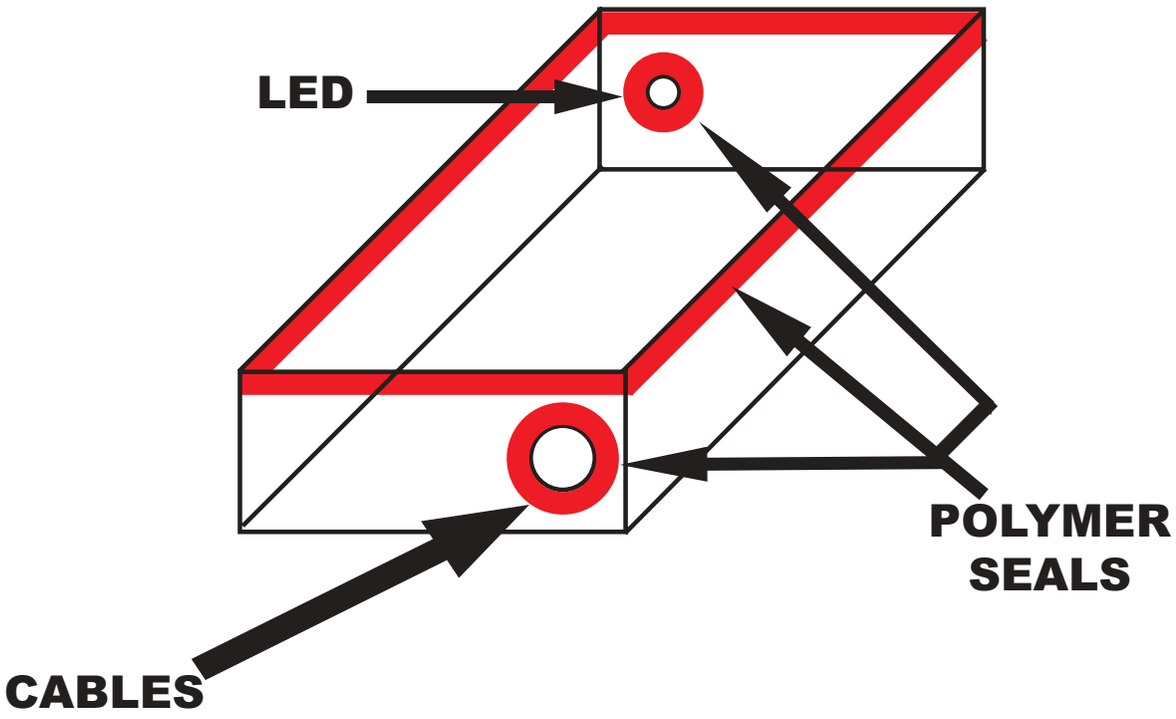


COMITRONIC

Safety switches in stainless steel 316L

NEW METHOD

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



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
- Very high resistance to releases
- Complete polymer sealing
- Resists to UV

COMITRONIC

SUMMARY Safety modules

COMITRONIC

OUR MODULES

3 years warranty

CONTROL OF SAFETY DEVICES

INTRODUCTION

The AWAX range : 26XXL, 27XXL and 45XXL2

Offering a complete solution, these modules may control mechanical switches, emergency stops and the BTI non stand alone switches with ACOTOM process. These modules can be supplied with 24Vac and dc or 85~265Vac with only one input.
The user can choose either automatic or manual reset mode by means of a dip-switch.
These modules use our DLC technology and dispose of the 8A 250 Vac or 50Vdc contacts.

The MICRONIC range : 150BXXL and 250BXXL

These economical safety modules have been developed especially to control emergency stops and interruptors. As you should distinguish the “emergency stop” zone and “access” zone, these modules optimize your mounting budget.

The CO13XXL range

Developed especially to control emergency stops, this module can be supplied with 24Vac/dc or 85~265 Vac

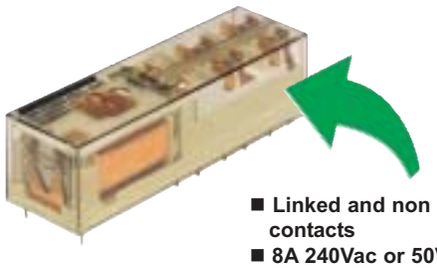
Special purpose modules

New digitally based technological process has been used in order to obtain several extra safety functions at a really competitive price. Examples : a zero speed controller (Speedtronic XXL), delayed safety control (Timtronic XXL) with a variator (Exeltronic XXL) or a two-hands control device.

Interlocking system

A solution for interlocking consists of a safety contactor (C4CK), a safety switch of cat. 3 with a key (AMX5CK) and a lack of voltage interlocking device.
This system can work independently or by means of the transfer of the key between C4CK and AMX5CK.
The C4CK contactor can be used also to shunt one dangerous zone. The key stays locked or unlocked on the switch or on the contactor depending on the application required.

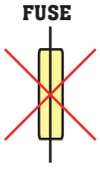
A MODERN TECHNOLOGY



- Linked and non overlapping contacts
- 8A 240Vac or 50Vdc
- Complies with EN50205
- Waterproof components

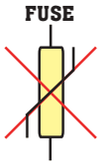
➔ New relays

FUSE



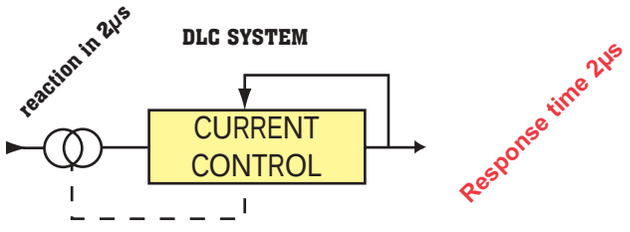
An overcurrent will destroy it and you would have to send the product back to the manufacturer. The response time depends on the current.

AUTO RESETABLE CHEMICAL FUSE



Automatic reset but the response time is long (30s). It decreases the safety category from 4 to 3 in specific environments

THE SOLUTION



The response time of our DLC process assures the safety category 4 even in hard environments.

AWAX 26XXL AND AWAX 27XXL

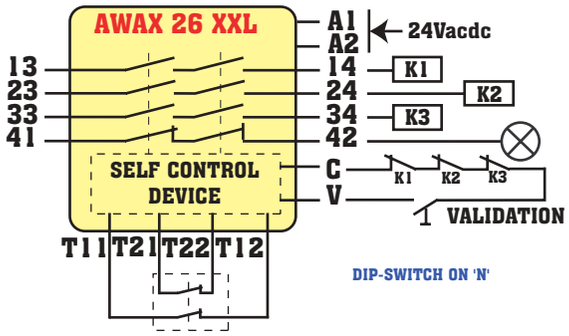
MULTI-FUNCTION MODULES

- Low consumption inputs
- Control of switches with Acotom® process
- Control of mechanical safety systems (grip switch, foot switch...)
- Dip switch to choose reset mode (automatic/manual)
- DLC system
- Dual area control (Awax27XXL)
- Power supply 24Vac/dc
- 22,5 mm or 45 mm housing
- Plug-in terminals

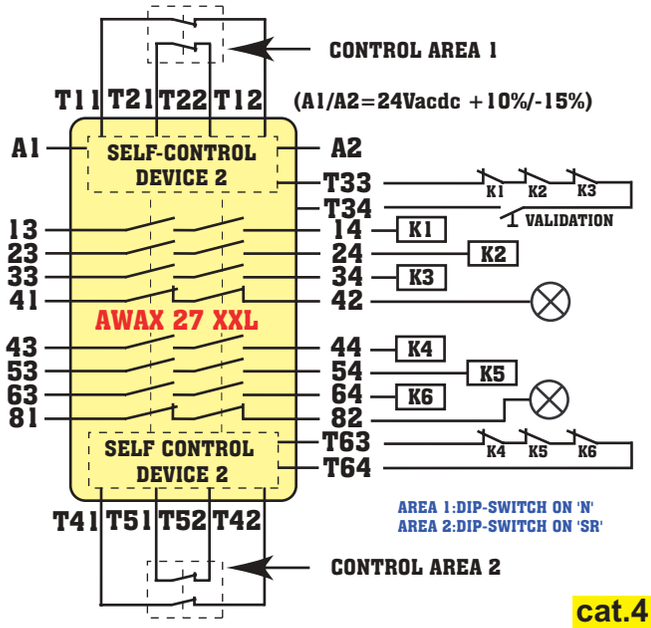
SAFETY CATEGORY

AWAX26XXL : category 4 according to EN 954-1
AWAX27XXL : category 4 according to EN 954-1
EN 292, EN 418, EN 1088, EN 60204-1

WIRING DIAGRAM

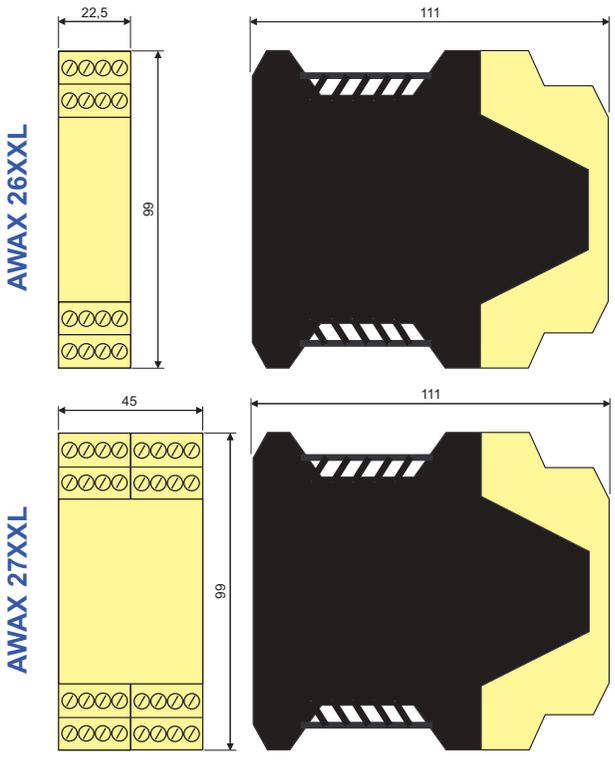


cat.4



cat.4

DIMENSIONS



ADVICE

These safety modules are able to control up to 30 switches when there is an external power supply.

AWAX 45XXL2

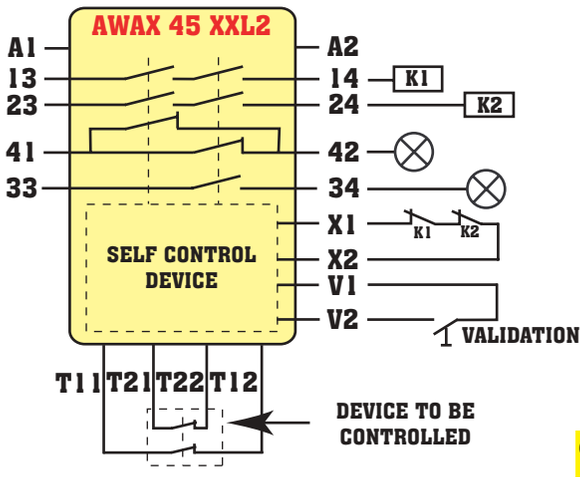
MULTI-FUNCTION MODULE WITH 85/265V POWER SUPPLY

- Low consumption input
- Control of switches with Acotom process
- Control of mechanical switches
- DLC system
- Plug-in terminals
- Dip switch to choose the reset mode (automatic/manual)
- 85~265Vac power supply
- 67.5 mm housing

SAFETY CATEGORY

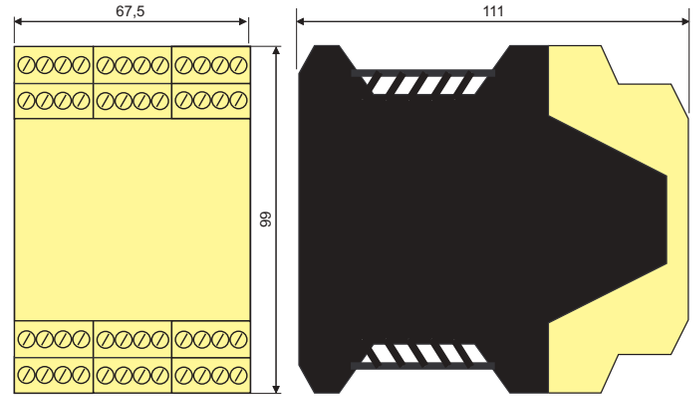
AWAX45XXL2 : category 4 according to EN 954-1
EN 292, EN 418, EN 1088, EN 60204-1

WIRING DIAGRAM



cat.4

DIMENSIONS



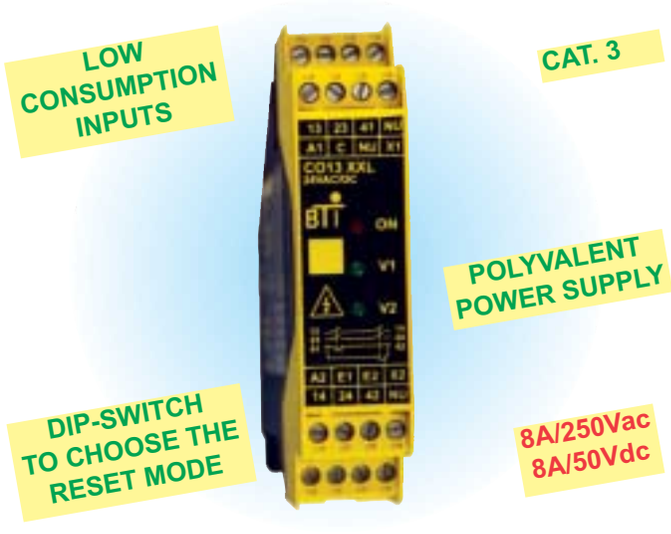
ADVICE

This module can control up to 30 safety switches with an external supply.

CO13 XXL

EMERGENCY STOP CONTROL

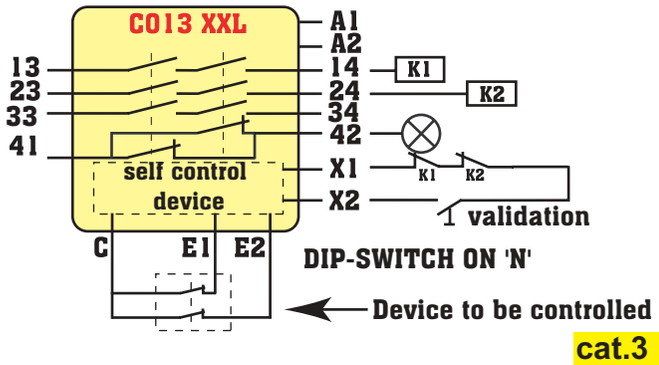
- Control of emergency stops buttons
- Control of mechanical switches
- Control of interlocking devices
- Independent supply inputs to avoid in-rush current
- Internal electrical protection, auto-resetting
- Plug-in terminals
- Dip-switch to choose the reset mode
- 24Vac/dc or 85~265Vac power supply
- 22,5 mm (24V) or 45mm (85~265V) housing



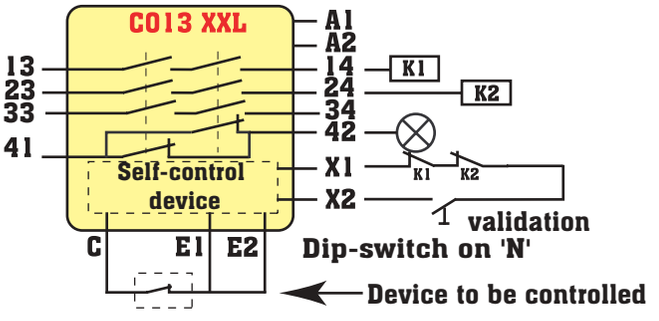
SAFETY CATEGORY

Single channel wiring : category 2 according to EN 954-1
Double channel wiring : category 3 according to EN 954-1

WIRING DIAGRAM

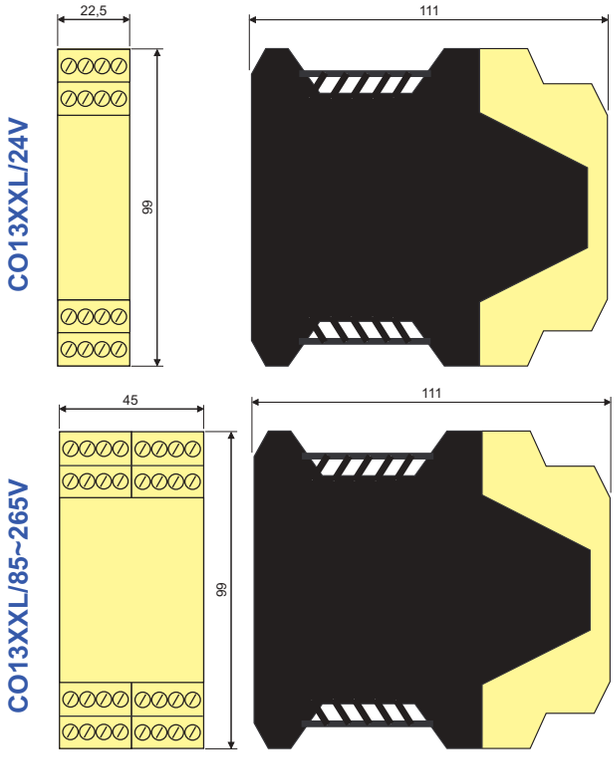


cat.3



cat.2

DIMENSIONS



APPLICATION

An economic solution to control emergency stop buttons with one or two channels. The independent low consumption input improves the reliability of the switches connected to this module.

MICRONIC 150BXXL AND 250BXXL

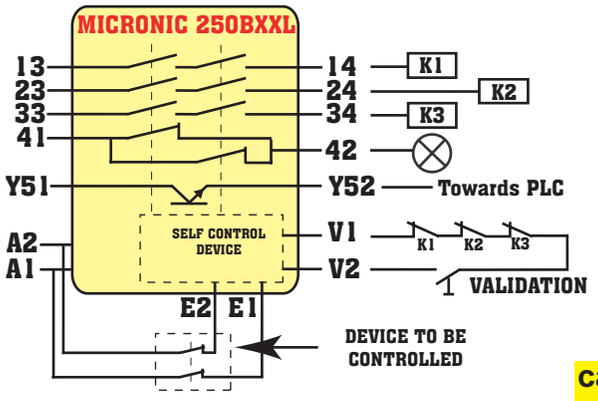
EMERGENCY STOP CONTROL

- Control of emergency stops
- Control of mechanical switches
- Control of interlocking devices
- Independent supply inputs to avoid in-rush current
- Plug-in terminals
- Manual reset controlled at release
- Model 24Vdc only
- 22,5 mm housing

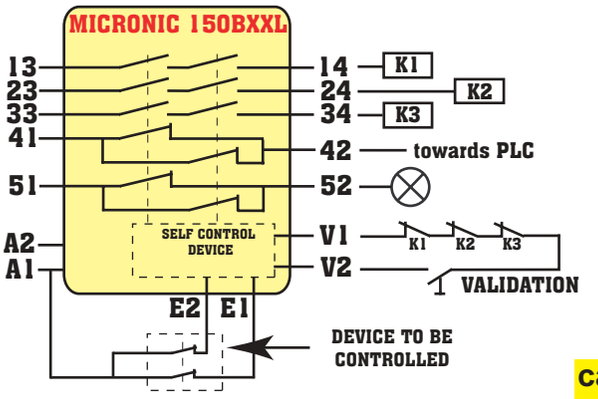
SAFETY CATEGORY

MICRONIC 150BXXL : category 2 according to EN 954-1
MICRONIC 250BXXL : category 3 according to EN 954-1

WIRING DIAGRAM

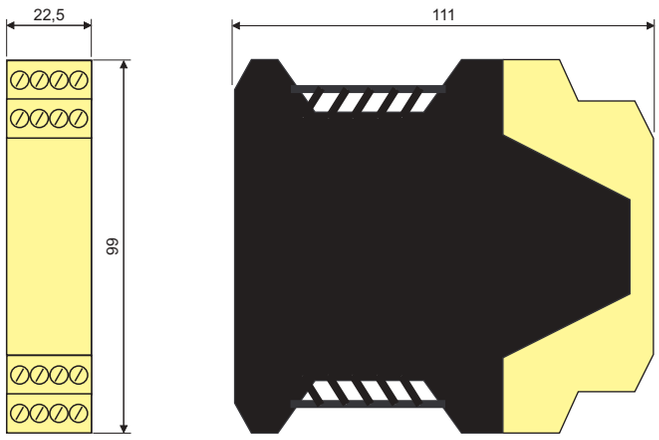


cat.3



cat.2

DIMENSIONS



ADVICE

150BXXL model : an economical solution to control emergency stops with one or two channels .
250BXXL model : double channel control only.
Impulse resetting controlled at release.

COM3C

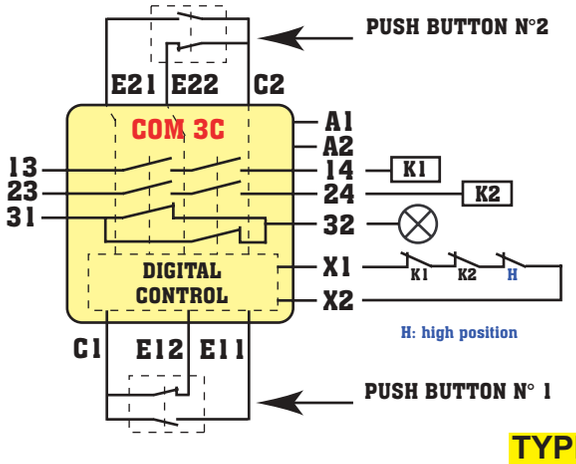
TWO-HAND CONTROL DEVICE

- Control of 2 buttons 1NO+1NC
- Desynchronism between buttons : 0,4 sec.
- 2NO + 1NC output contacts
- Test input (position switches, contactors)
- DLC short-circuit monitoring
- Plug-in terminals
- 24Vac/dc supply
- 22,5 mm housing

SAFETY CATEGORY

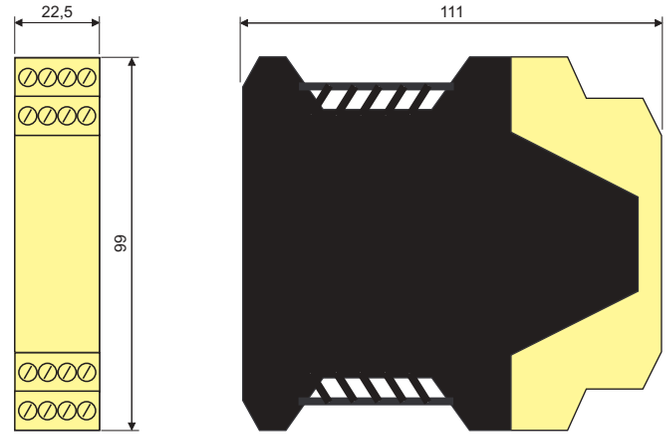
COM 3C : IIIC type according to EN 574

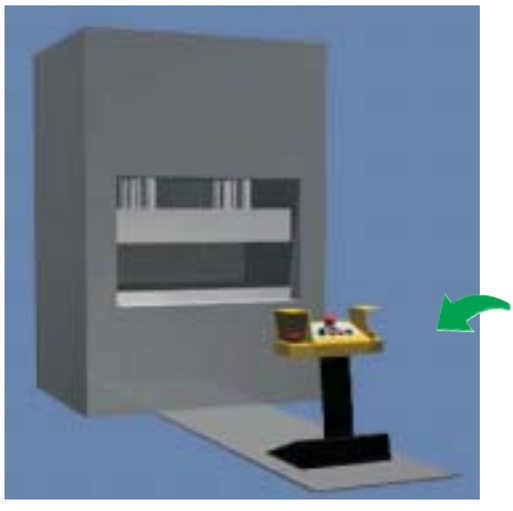
WIRING DIAGRAM



TYPE IIIC

DIMENSIONS





The COM3C can control a process board of a two-hand control device.

This module disposes of a new digital system allowing to keep a constant delay between the two push buttons (400 ms). It makes this module compatible even with high-speed presses and allows to improve the productivity.

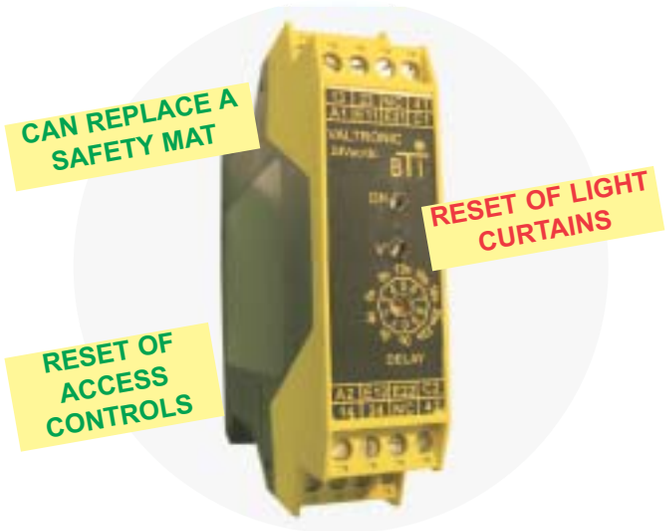
ADVICE

A two hand control device type IIIC designed for a high work frequency in a 22,5 mm housing.

VALTRONIC

PROTECTION OF OPERATORS IN DEATH ZONES

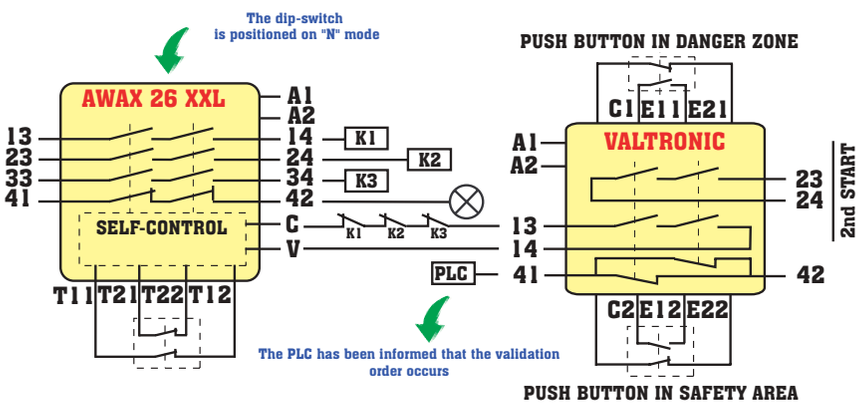
- Protection of an operator placed in a death zone
- 2 independent lines of command to activate up to 2 safety systems & 1 NC auxiliary line
- Pushing on 2 buttons of which 1 is priority
- Delaying time adjustable by incremental coders
- Delaying time: 0, 2, 4, 6, 8, 12, 16, 18, 20, 22s
- Power supply : 24V



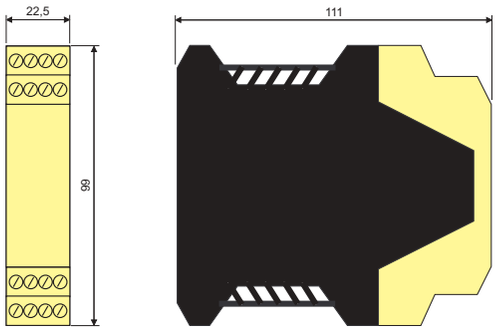
SAFETY CATEGORY

VALTRONIC : Category 4 according to ISO13849-1
The safety category depends on the system to be reset.

WIRING EXAMPLE

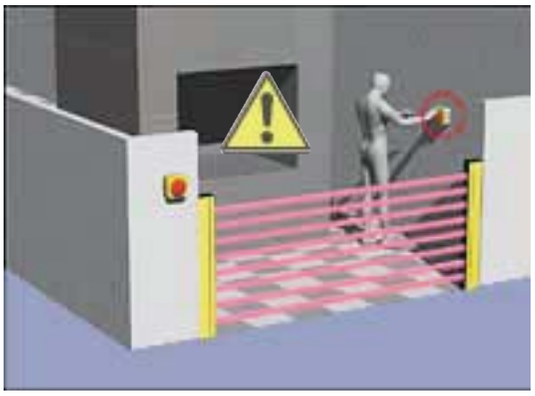


DIMENSIONS

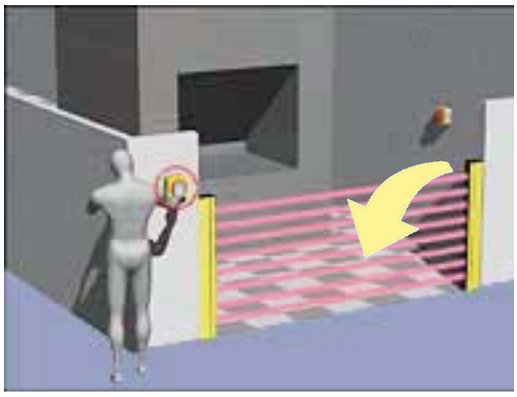


cat.4

APPLICATION



Press the A button first the worker is in safety



The worker gets out from the zone and presses the B button. He must do it in scheduled time to reset the machine.

NEW

SPEEDTRONIC

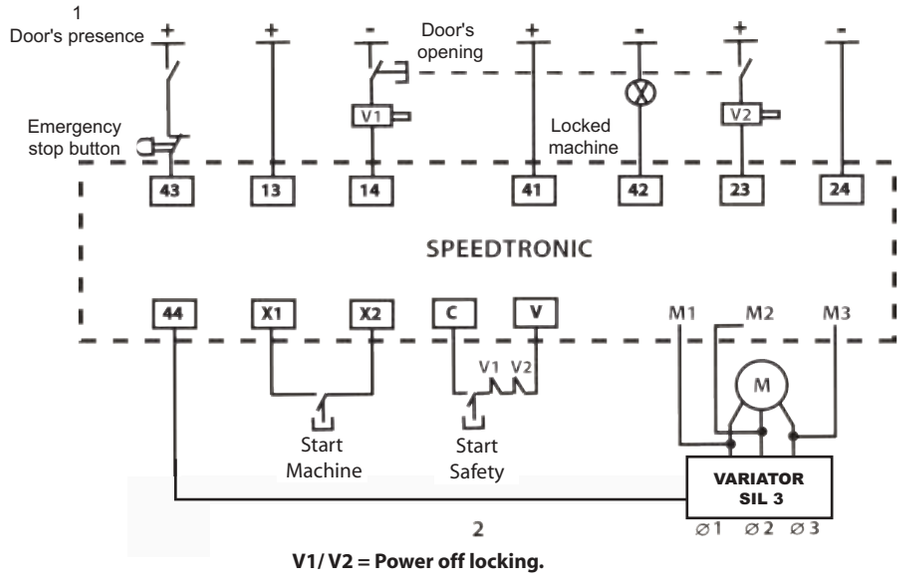
ZERO SPEED CONTROLLER

- Control of three-phase-motors
- No adjustment / <7.5 KW
- 3 contacts NO + 1 contact NC 8A/250V
- Interlocking control
- Dip-switch to adjust the reset mode: manual or automatic
- Control of starting circuit
- Compatible with frequency variators
- Power supply : 24Vac/dc
- Three-phase-motor 3 to 440Vac (0.5 to 400 Hz) maximum 1V with overrunning clutch or 0.5 HZ with variator
- Minimum voltage before starting : 1V

SAFETY CATEGORY

SPEEDTRONIC : category 4 according to EN 954-1
Direct starting : category 4 according to EN 954-1

WIRING DIAGRAM



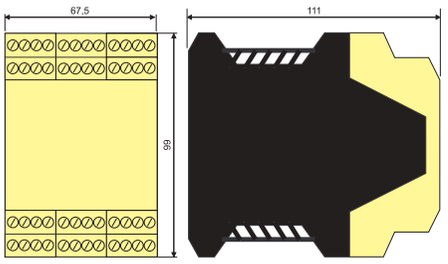
V1/ V2 = Power off locking.

cat.4

APPLICATION

The unit ensures the safety of motor's starting circuit.
With the SPEEDTRONIC you can be sure that all movements have stopped when you open the door and that you can no longer restart the machine.

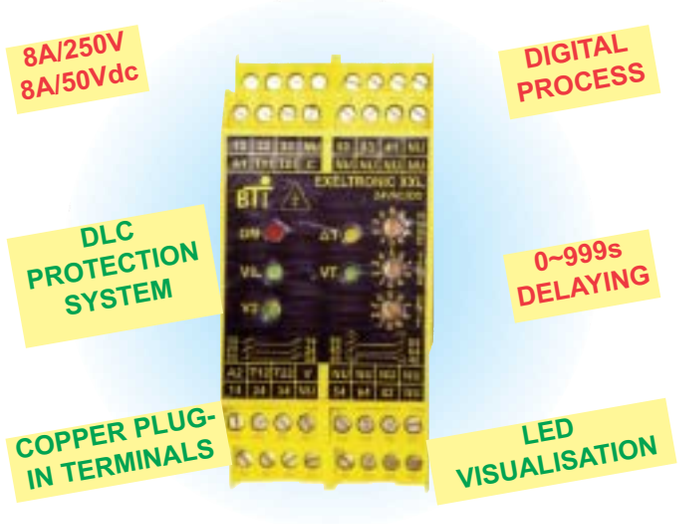
DIMENSIONS



EXELTRONIC XXL

DELAYED MODULE FOR INTERLOCKING CONTROL

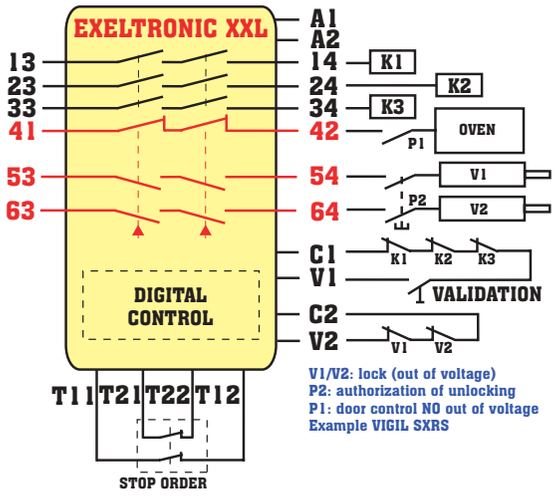
- Activation by a dual channel pushbutton with 2 contacts NC
- Short-circuit monitoring of input
- Compatible with safety switches fitted with Acotom process
- 3NO instantaneous contacts for engine control or heating resistances of single- or Three-phase motors
- 2NO+1NC delayed contacts
- Delay time adjustable by incremental coders (from 0 to 999s)
- Power supply : 24Vac/dc



SAFETY CATEGORY

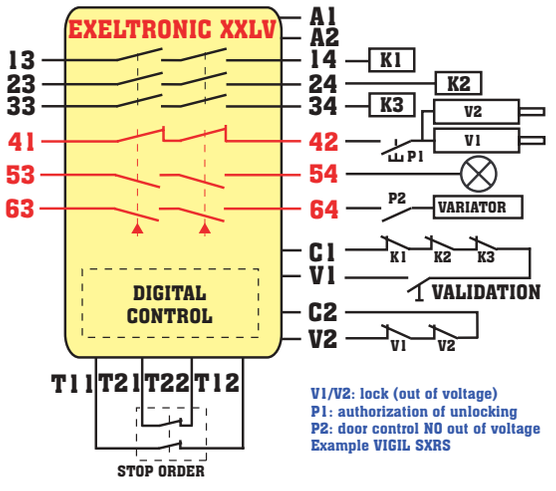
EXELTRONIC XXL(V) : category 4 according to EN 954-1

WIRING DIAGRAM



INTERLOCKING WITH DELAYED OPENING: OVENS, INERTIA MACHINES...

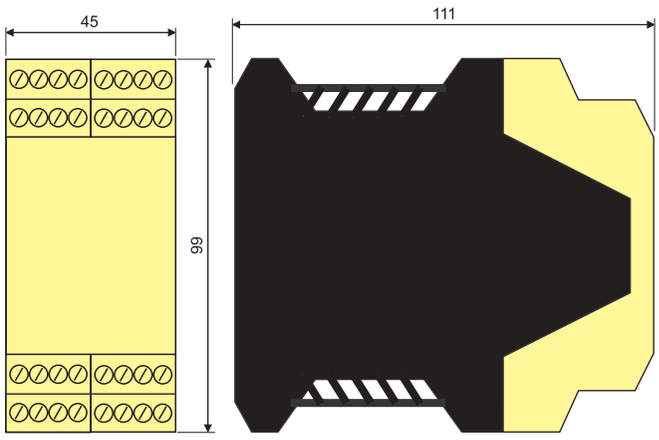
cat.4



CONTROL OF A VARIOTOR

cat.4

DIMENSIONS



This unit incorporates a self-monitoring system of category 4, a digital timing circuit and a reset system. EXELTRONIC XXL controls all the safety gates of a machine. Connected to Anatom safety switch and an interlocking device, it provides an economical safety solution.

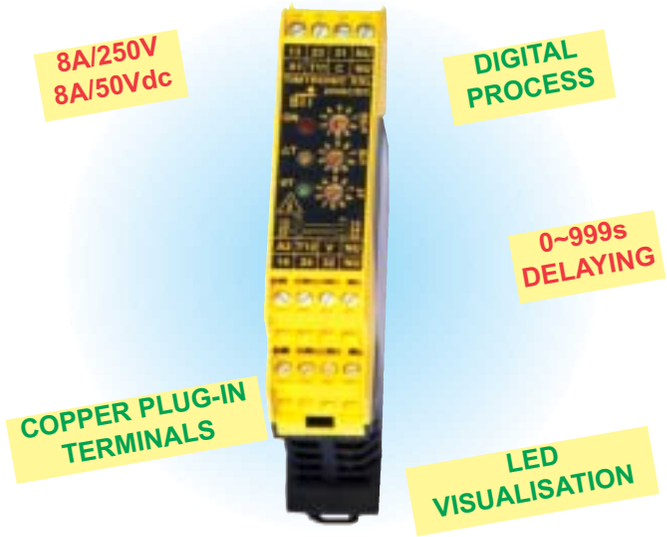
APPLICATION

The unit is to stop the machine and maintain the deceleration of an engine by means of a frequency variator. Then after a determined time, you can unlock the door securely.

TIMTRONIC XXL

DIGITAL DELAYED RELEASE MODULE

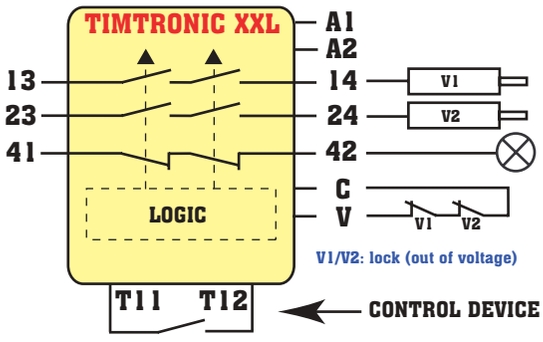
- Activation by an opening of a NO contact
- Reset to zero each time the contact closes (LED lit off)
- Flashing LED during timing
- Closing of contacts after timing
- Delay time adjustable by incremental coders from 0 to 999s
- 2 NO delayed lines 8A/250V
- 1 NC delayed line 8A/250V
- Power supply : 24Vac/dc
- 22,5 mm housing



SAFETY CATEGORY

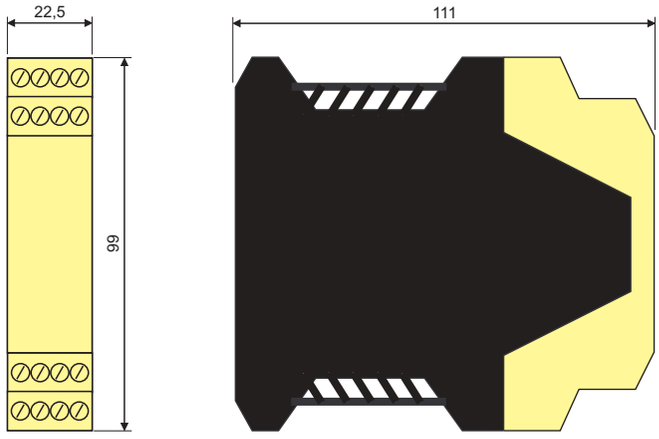
TIMTRONIC XXL : category 3 selon EN 954-1

WIRING DIAGRAM

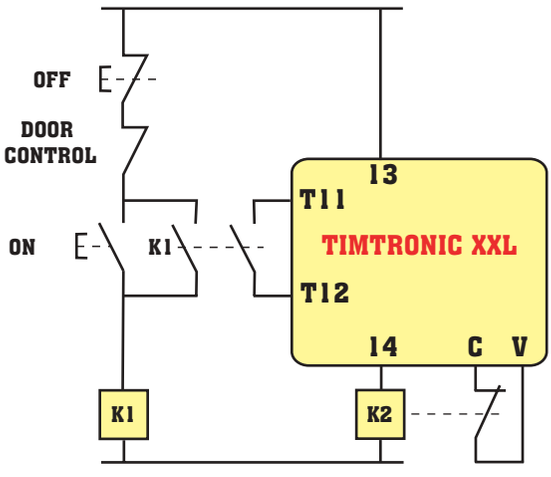


cat.3

DIMENSIONS



FUNCTIONING



cat.2

Rising time drift in case of failure which guarantees the access locking.

APPLICATION

With the Timtronic you can stop the machine and the door will unlock after a chosen delay time.

C4TXXL

DELAYED RELEASE MODULE

- Contact input
- Delaying time (300 ms to 8s +/-20%) defined at purchase
- 3NO delayed lines 6A/250Vac
- 1NC delayed line 6A/250Vac
- Power supply : 24Vac/dc or 120/240 V
- Decreasing time drift in case of failure

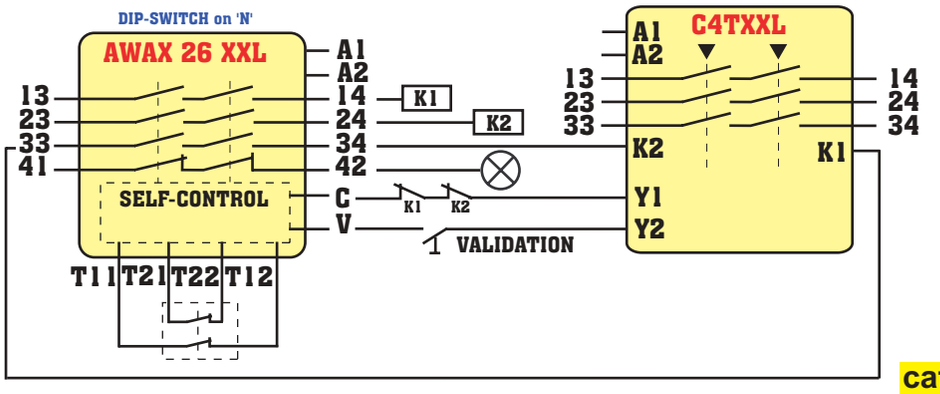
6A/250V

COPPER PLUG-IN TERMINALS

SAFETY CATEGORY

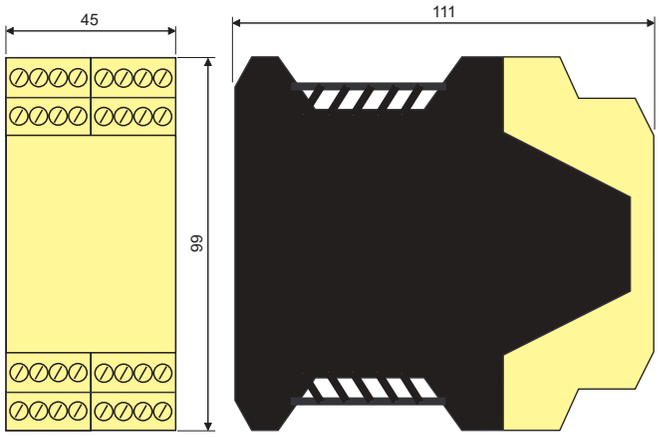
C4TXXL : category 4 according EN 954-1 if connected to appropriate safety module (ex: AWAX26XXL)

WIRING DIAGRAM



cat.4

DIMENSIONS



C4CK

SAFETY CONTACTOR WITH A LOCKING DEVICE

Version A
- ➔ Key locked and turned : 4NO+1NC 8A/250V
- ➔ Key removed : 4NC+1NO 8A/250V

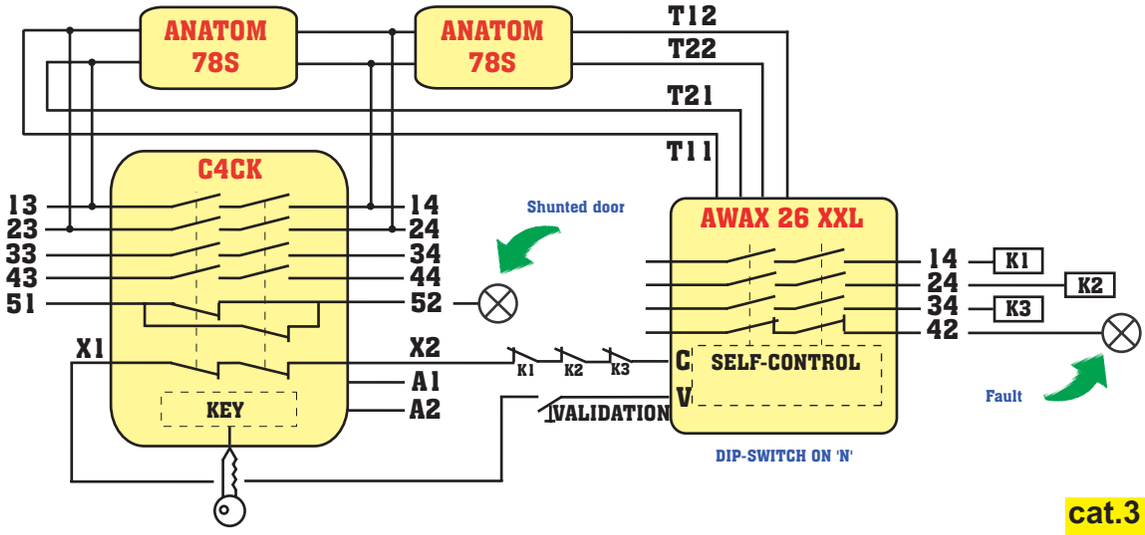
Version B
- ➔ Key locked and turned : 4NC+1NO 8A/250V
- ➔ Key removed : 4NO+1NC 8A/250V

Versions A and B
- ➔ 1 line for cyclical test and 2 LEDs
- ➔ Can work in association with the safety switch AMX5CK

SAFETY CATEGORY

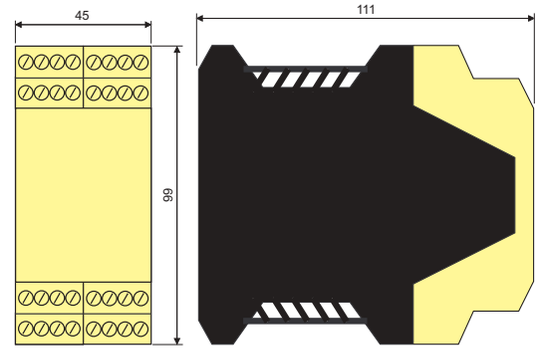
C4CK : category 4 according to EN 954-1 with a safety module (ex : AWAX26XXL)

WIRING DIAGRAM



cat.3

DIMENSIONS



APPLICATION

* Locking of one area by shunting the safety of an access
* Interlocking system with the switch AM5CK.

RELTRONIC 6SX

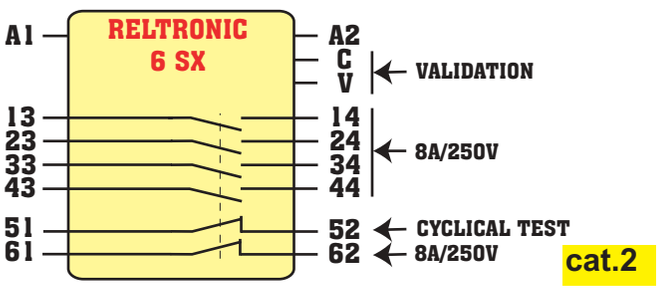
SAFETY EXTENSION MODULE

- Extension of the number of safety contacts
- Non overlapping and linked contacts of A class
- 4 contacts NO + 2 contacts NC 8A/250V
- Plug-in terminals
- Power supply : 24Vac/dc

SAFETY CATEGORY

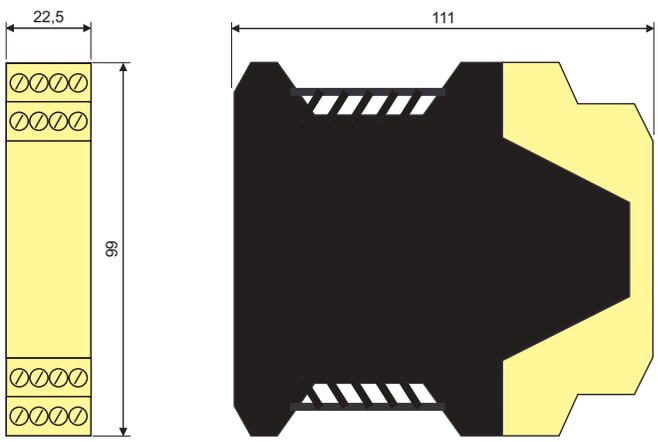
RELTRONIC 6SX :
-category 1according to EN 954-1
-category 2 with periodical verification

WIRING DIAGRAM



cat.2

DIMENSIONS



FUNCTIONING

The activation is done by the closing of a NO line (C/V) coming from a safety device

APPLICATION

Six additional safety contacts 8A/250V in a 22,5 mm housing only.

C4SX

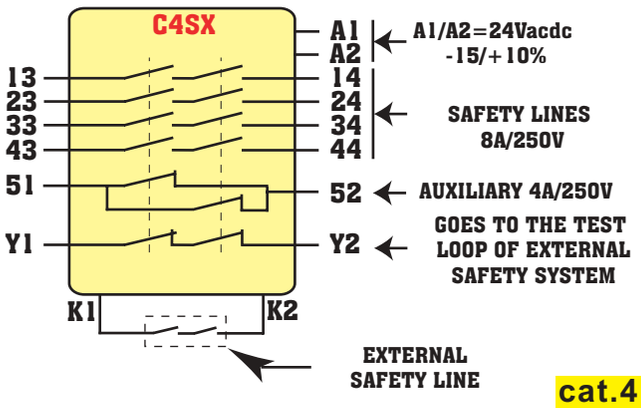
SAFETY EXTENSION MODULE

- Extension of the number of safety contacts
- Non overlapping, linked contacts of A class
- 4 lines NO + 1 line NC 8A/250V + 1 test line
- Plug-in terminals
- Power supply : 24Vac/dc or 85~265Vac

SAFETY CATEGORY

EC4SX : category 4 according to EN 954-1 associated with a safety module

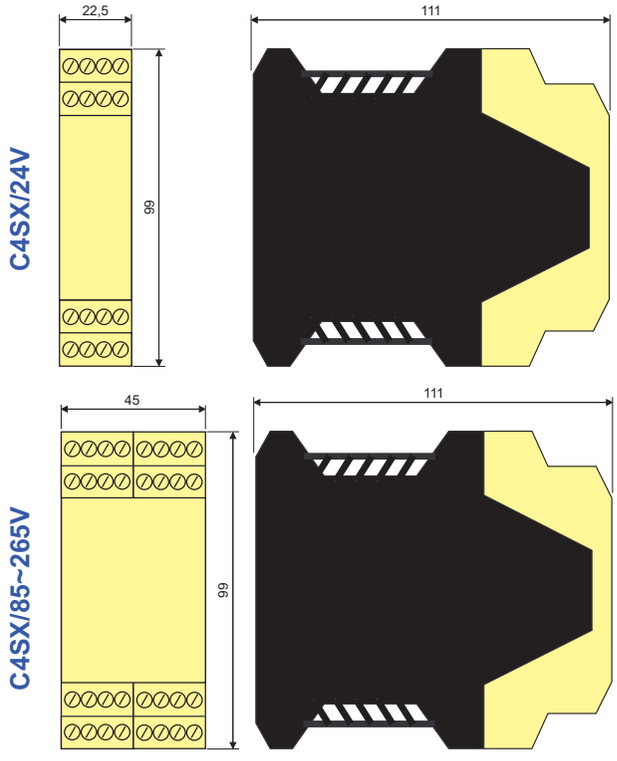
WIRING DIAGRAM



cat.4

Associated to a safety module (ex. AWAX26XXL), it enables to increase the number of safety lines while maintaining the safety category.

DIMENSIONS



FUNCTIONING

The activation is done by the closing of a NO line (K1/K2) coming from a safety device.

APPLICATION

Six additional safety lines 8A/250V in a 22,5 mm housing only. The safety category 4 of the safety module is maintained. Example :
Awax26XXL+C4SX->cat.4 according to EN954-1.

COMITRONIC

BTI INNOVATION IS OUR DRIVING FORCE

SOLID STATE RELAY

Safety control unit for light curtains

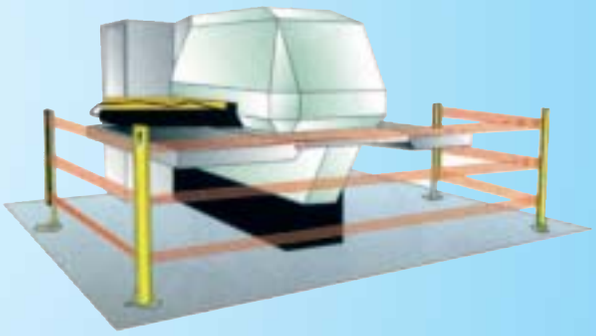
ADVANTAGES

- Plug-in terminals
- Contact 8A / 250V
- Cyclical tests

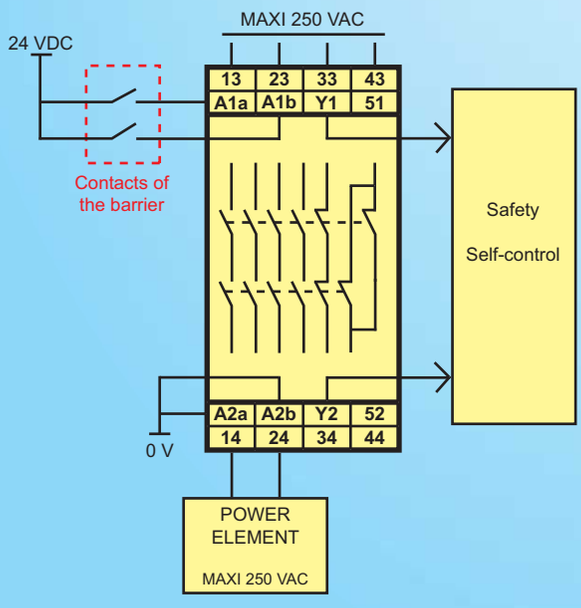
Applications

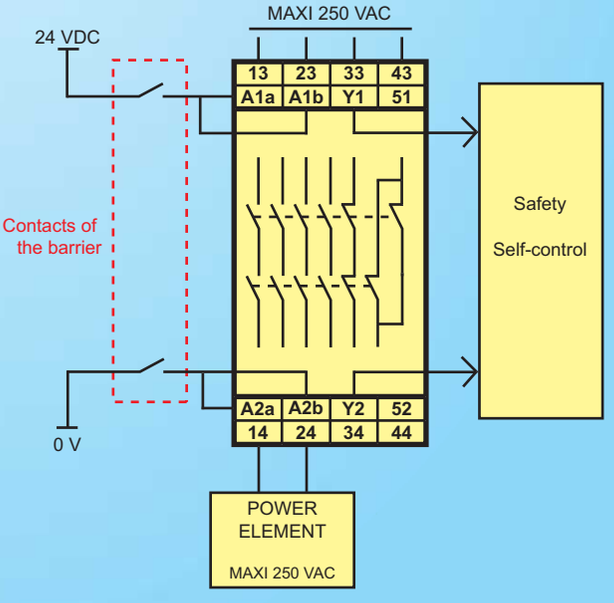
- Safety interface for light barriers with static output
- Extension of safety contacts

C5SX



Wiring example for category 4 according to EN954-1





AWAX26XXL

Small but strong

AWAX27XXL

The management of the emergency stops and access in category 4 with only one module

COMITRONIC

SUMMARY

BA8F1524

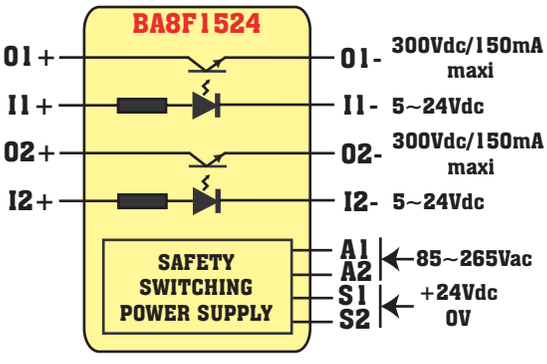
POWER SUPPLY FOR SAFETY DEVICES

- Primary : 85~265Vac (47~440Hz)
- Secondary : 24Vdc
- Nominal current : 630mA
- Efficiency : 75~78%
- Regulation rate : 0,1~1%
- Isolation primary/secondary : 3KV standard and 4KV in medical version (BA8F1524M)
- Short-circuit and over voltage protection
- 2 high speed solid state relays for monitoring system

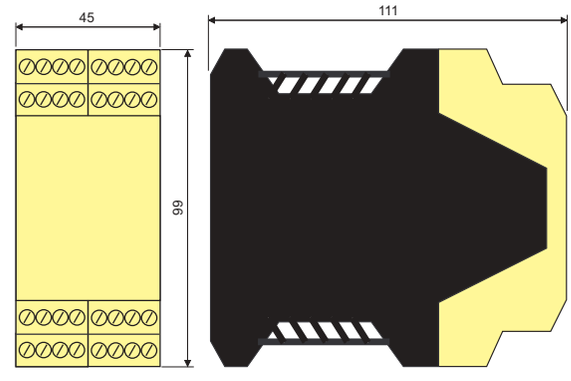
SAFETY CATEGORY

BA8F1524 : EN60950
EN60601-1 medical version

WIRING DIAGRAM



DIMENSIONS



FUNCTIONING

Switching power supply with regulation to avoid overvoltage and drop of voltage which lead to a wearing effect of the material. Compact power supply for DIN rail. Mounting lightweight.

STARTECH

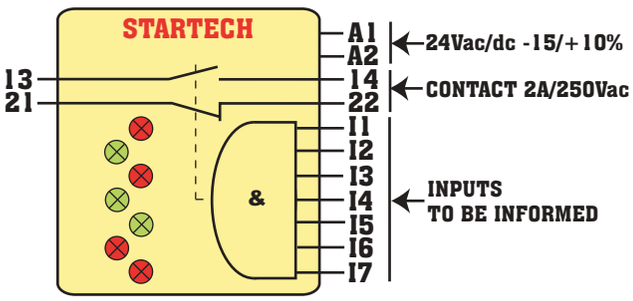
CENTRALISED FAULT INDICATOR

- Power supply 24V
- 7 inputs 24V pnp
- 7 dual colors LED
- 1NO+NC contact for alarm :
  All the active inputs activate the contacts
- Input +24V : green LED
  Input 0V : red LED

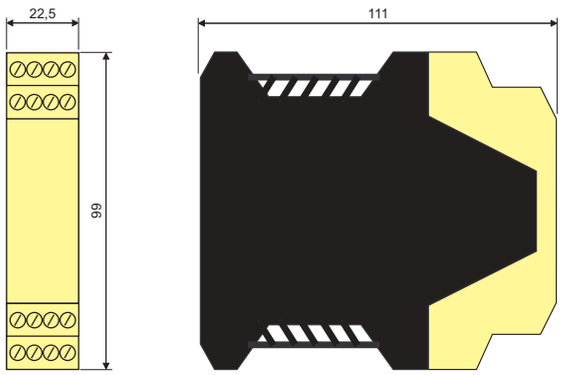
SAFETY CATEGORY

STARTECH : EN60204-1

WIRING DIAGRAM



DIMENSIONS



FUNCTIONING

Connect up to 7 safety switches to centralise displaying of the information. The non-used inputs would be connected to the ground. When all the inputs are active, the contacts of alarm activate.

C2R

NPN/PNP CONVERTOR

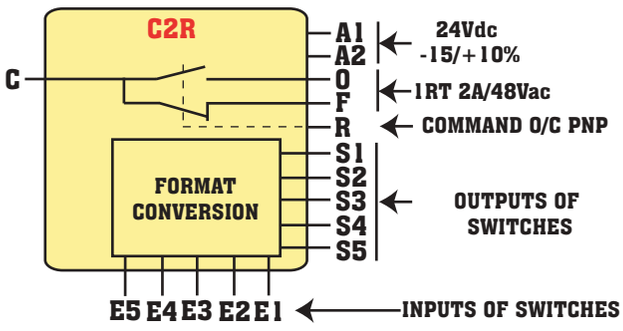
- Power supply 24Vdc
- 5 inputs 24V npn
- 5 outputs pnp
- 1 input 24V/10mA, 1output 1RT 2A/250V for power switching wiring
- Converter PNP/NPN or NPN/PNP

MOUNTING ON DIN RAIL

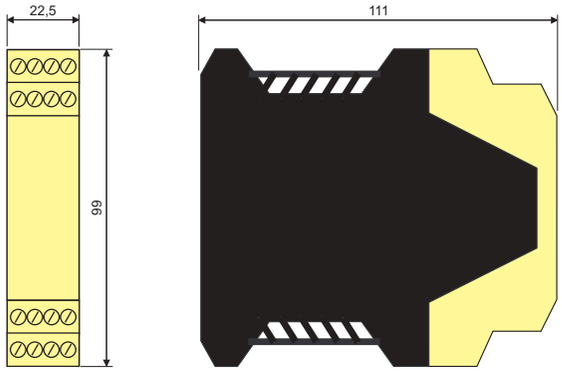
SAFETY CATEGORY

C2R : EN60204-1

WIRING DIAGRAM



DIMENSIONS



FUNCTIONING

Most of switches from Asia or in UK have a NPN output. A converter is used to make the products compatible with them.

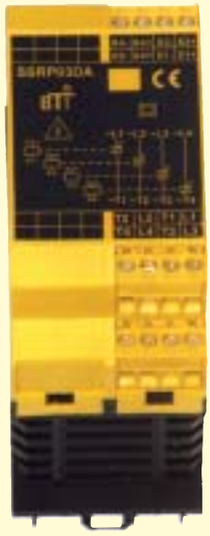
BTI

COMITRONIC

INNOVATION IS OUR DRIVING FORCE

INTERFACE SOLID STATE RELAY

4 independent terminals 3A



SSRP03DA

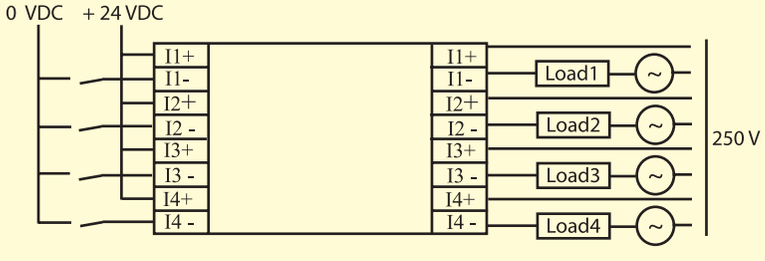
APPLICATIONS

SSRP03DA acts as a machine interface and may be used to monitor the heating resistances, power contactors or all applications which have important commutation cycles.

ADVANTAGES

- 4 independent and galvanically isolated terminals.
- Power supply from 3 to 32 VDC.
- High tolerance of working current : 24V to 380 VAC.
- Detection of passage by zero in order to eliminate parasites and increase the life expectancy of commuted materials.
- Compact design with plug-in terminals on DIN rail.

Wiring diagram



Technical features

Maximum charging current	3A
INPUTS	
Power supply	3~32 VDC
Voltage ON/OFF	ON > 2,4V OFF < 1,0V
Current of activation	7,5 mA / 12V
Control method	Release in passage by zero
OUTPUTS	
Voltage applied to the outputs	24 ~ 480 VAC
Drop of voltage of the contacts	1,6 V / 25C
Leakage current	3,0 mA
Response time	ON < 10ms OFF < 10ms
GENERAL FEATURES	
Dielectric resistance	> 2,5 kVAC
Isolation	> 50 MOhms / 500 VDC
Temperature of functioning	- 20°C ~ + 80°C
Weight	194 g
Dimensions L x l x w	45 x 100 x 111 mm

ATEX FORM

PROCESS ACOTOM®

Customer card ATEX

Identification : FQ-13
Date d'application : 01/06/07

Date : _____

Company name : _____

Name / Surname : _____

Address : _____

_____

_____

☎ : _____ 💻 : _____ 📠 : _____

INFORMATION TO BE SUPPLIED	*YES*	*NO*	*NORMATIVE REFERENCE*
Room temperature < +40°C			
Atex Category			
Atex area			
Power supply at least 10VA			

Comments

CUSTOMER	**COMITRONIC SALES**
Date : **Signature :**	**Date :** **Signature :**

Please fill in this form when you purchase ATEX-products.

MACHINE SAFETY
IN EXPLOSIVE ATMOSPHERE

Directive 94/9/CE

Certified INERIS

N° 06 ATEX 0007

Version PL- II 1 GD-EEx ia IIC T4
Version OX- II 2 GD-EEx ia IIC T4

EEx SYST (ia IIC T4)

ACOTOM® 2 PROCESS

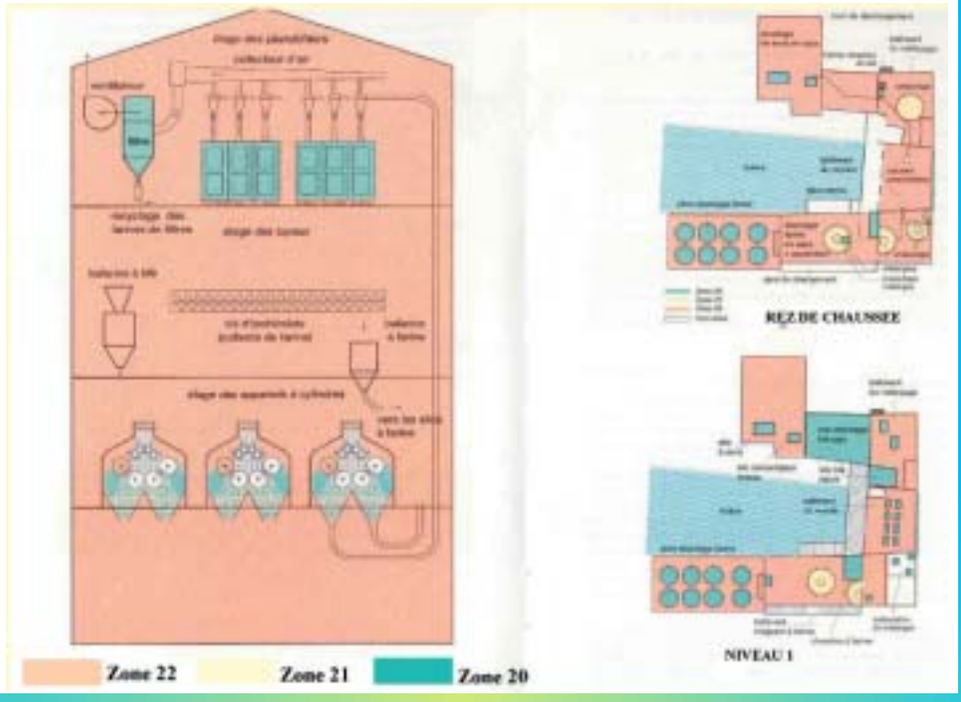
AWAX26XXL-EEX
ATEX + Safety module of category 4 according to EN 954-1

ANATOM 78S-EEX
LED indicating the status of auxiliary contact
Supplied with 12m cable

High protection level of ATEX and reliable solution for machine safety

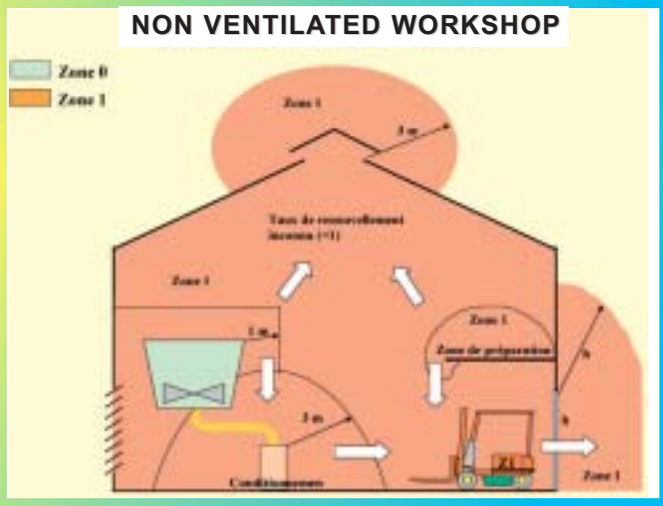
We help you to determine :
- the Atex zone and its category
- the temperature level from T1 to T6
- the economical and ideal solution complying with your category

INSTALLATION OF A FLOUR MILL



INSTALLATION OF A WOODEN SILO

NON VENTILATED WORKSHOP



INSTALLATION OF A SILO FOR SUGAR

Installation en silos verticaux

VENTILATED WORKSHOP

How to determine the ATEX zone and category ?

According to the directive 94/9/EC

An explosive atmosphere is defined as a mixture
- of flammable substances in the form of gases, vapours, mists or dusts,
- with air,
- under atmospheric conditions,
- in which, after ignition, the combustion spreads to the entire unburned mixture.

An atmosphere becoming explosive due to local and/or operational conditions, is called a potentially explosive atmosphere. The electrical equipment used in these areas must be designed as not to create sources of ignition capable of igniting these mixtures.

The directive divided equipment into two groups. Group I is applied for mining, and Group II for Surface industries. Group II is divided in subgroup (from the leak risk level IIA to the high level IIC). In the table below you can see the details about group II.

TABLE 1				
ATm.EXpl.	risk	zone	category	equipment to be used
Gas, vapour and fog	permanent or frequent	0	II 1 G	Very high level of protection (2 independent means in order to ensure the protection and the safety)
Gas, vapour and fog	occasional	1	II 2G	High level of protection (safe even in case of unusual conditions of functioning)
Gas, vapour and fog	occasional or for a short time	2	II 3 G	Normal level of safety (safe in case of usual conditions of functioning)
Dust	permanent or frequent	20	II 1 D	Very high level of safety (2 independent means in order to ensure the protection and the safety)
Dust	occasional	21	II 2 D	High level of safety (safe even in case of unusual conditions of functioning)
Dust	occasional or for a short time	22 conductive dust / non-conductive dust	II 2 D	High level of safety
			II 3 D	Normal level of safety

Explication of table 1

A) Gas

Zone 0 : frequent risk
Zone 1 : occasional risk
Zone 2 : low probability of risk and for short time

B) Dust

Zone 20 : frequent risk
Zone 21 : occasional risk
Zone 22 : low probability of risk and for a short time

C) Our solution

We provide an economical and reliable ATEX solution who can reach the highest protection level for explosive zone : zone 0 for gas and zone 20 for dust.

D) ACOTOM® PROCESS

ACOTOM process is an electronical double decoding system, not based on the reed-contact principle. It guarantees that our switches are not cheatable by only a magnet. In addition, you don't have to program it. And no SIL standard is required.

How to avoid the explosion?

The risk in potentially explosive atmospheres is due to mixtures of gas/air, vapour/air, dust/air or other flammable combinations.

We can avoid the explosion by eliminating sources of ignition such as sparks, hot surfaces or static electricity.

Preventing an explosive atmosphere

The used protective systems for electrical equipments in an atmosphere of gas, vapour or mist are detailed in table 2. Several protective measures may be combined.

Within explosive dust atmosphere, the protective measures mainly concern the waterproof surface (protection class IP)

New protective systems applied to non electrical materials used in potentially explosive atmosphere are detailed in the new European standard EN 13343-1.

Reliable measures eliminating all potential sources of ignition is dependent on the category of the used equipment. You should first consider the materials, alloys, electro-static charges, electric arc and overheating due to frictions.

TABLE 2		
MODES OF PROTECTION AGAINST THE IGNITION	THIS IDENTIFICATION CAN BE USED IN ZONE	PRINCIPLE OF SAFETY
Increased safety	EEx e 1	no electric arcs, sparks or hot surfaces
Anti-spark equipment	EEx nA 2	
Antiexplosive covering	EEx d 1	controls the internal explosions but not the spreading of the flame
Encapsulation of sand	EEx q 1	
Device for protected commutation	EEx nC 2	
Intrinsic safety (specific demands)	EEx ia 0	limits the energy of a spark and the temperature of the surface
Intrinsic safety	EEx ib 1	
Equipment for limiting energy	EEx nL 2	
Encapsulation	EEx m 1	distinguishes the source of ignition and the ATm.EXpl.
Encapsulation of oil	EEx o 1	
Pressurisation	EEx p 1	
Simplified pressurisation	EEx nP 2	
Protective covering against the vapour	EEx nR 2	

Groups of gas

Various substances may be flammable due to occuring energy . The most dangerous substances are these flamming with the leakst energy.

The directive divides equipment into two groups. Group I is applied for mining, and Group II for Surface industries. Group II is divided in subgroup (from the leak risk level IIA to the high level IIC).

Our ATEX solution ANATOM78SEEx and AWAX26XXLEEx comply with the highest risk level groupe IIC.

Temperature Classes

Various substances may ignite in different temperatures. These substances are considered as the most dangerous ones when they may ignite under very low temperature. The temperature class is indicated by a marking on the equipment.

The maximum surface temperature of apparatus must be lower than this of self-ignitable mixtures being present in the dangerous area.

Materials used in explosive atmosphere are classified from T1 to T6 according to their generated maximum surface temperature. (See table 3). Materials in class T6 (the lowest temperature) are the most dangerous and may be obviously used for other classes (T1 to T5). The equipment marked with EEx...IICT6 can be used for any mixture of atmospheres existing.

In explosive dust atmosphere, the maximum surface temperature is mentionned in °C.

TABLE 3

GROUPS OF DANGEROUS ZONES	TEMPERATURE CLASSES					
	T1	T2	T3	T4	T5	T6
MAXIMUM TEMPERATURE OF SURFACE	450°C	300°C	200°C	135°C	100°C	85°C
II A	Acetone Ammoniac Benzene Acetic acid Ethane Acetate of ethyl Ethyl chloride Methanol Naphthalene Phenol Propane	I-Amyl acetate Butane Alcool Butyl	Petrol Gazoil Hot oil Hexane	Acetaldehyde		
II B	City gas Gas for lighting	Ethylene	Hydrogen sulfide	Diethyl ether		
II C	Hydrogen	Acetylene				Carbon bisulphide
	ANATOM78SEEXPL+AWAX26XXLEEX APPLICATION ZONE					

ANATOM 78S-PL-EEx in polyamide housing

II 1GD-EEX ia IIC T4

Advantage: Our safety switch Anatom 78S-PL-EEX can be applied in T4 condition

What's T4 ?

T4 is the maximum temperature of product surface(135°C). The group IIA is up to acetaldehyde. The group II B is up to ether ethylic. They cover all the using gas.
As the unit ANATOM 78S-PL-EEX can be used in T4 condition (the most dangerous), it means that it can be applied in T1, T2 and T3 condition which are less dangerous.

ANATOM78S-OX-EEX in stainless steel
II 2 GD-EEX ia IIc T4

The unit is designed for application in hard environment where agressive materials are used for cleaning and mecanical wear occurs.

AWAX26XXL-EEX

Advantage:

This safety module provides high safety category 4 according to EN954-1 standard for machine and eliminates the using of control interface for Zener barrier because the Zener barrier is incorporated.

2 channels of Zener barrier in the module supply 4 safety contacts complied with EN954-1.

The combination of safety module with Zener barrier enables to reduce your costs and guarantee a better safety application thanks to the relay with non-crossed double contacts.

ATEX APPLICATION

APPLICATION FIELDS	Ignition temperature	Group of Gas	GROUP	II A																										II B			II C		
			GAS AND VAPOURS	Acetone	Industrial methane	Acetate of ethylene	Methanol	Butane	Propane	Hexane	Ammoniac	Oxidized carbonne	Pentane	Heptane	Iso-octane	Decane	Benzene	Xylene	Cyclohexane	Ethyl/MethylKetone	Acetate of methyl	Acetate of propyl	Acetate of butyl	Acetate of amyl	Butanol	Nitrite of ethyl	Ethylene	Butadiène 1,3	Oxydized ethylene	Hydrogen	Carbon bisulphide	Acethylene
				465°C	535°C	425°C	385°C	287°C	450°C	223°C	650°C	605°C	260°C	204°C	530°C	205°C	498°C	460°C	245°C	510°C	454°C	450°C	420°C	360°C	343°C	90°C	450°C	420°C	425°C	500°C	90°C	300°C
Industry of cleaning products	245°C	II or IIB		X		X											X	X	X	X	X						X					
Pharmaceutical industry	90°C	II or IIC			X	X	X															X	X			X				X		
Industry of colouring agents	385°C	II or IIA			X		X										X	X		X	X											
Industry of artificial rubber	300°C	II or IIC			X	X											X						X				X					X
Perfumery	375°C	II or IIA	X		X	X											X	X						X								
Alcohols	375°C	II or IIA				X																		X								
Artificial essences of fruits	90°C	II or IIA				X																		X		X						
Manufacture of artificial textile	90°C	II or IIC				X						X					X		X								X		X		X	X
Painting industry	343°C	II or IIB	X			X											X			X	X		X	X	X				X			
Manufacture of fats	343°C	II or IIB	X			X											X			X	X		X	X	X				X			
Fat solvents	465°C	II or IIA	X								X						X															
Resin solvents	465°C	II or IIA	X				X													X	X				X							
Manufacture of plastic matters	300°C	II or IIC	X	X																			X		X		X			X		X
Hydrocarbons	90°C	II or IIC		X			X	X	X			X	X	X	X	X	X	X													X		
Gas used as fuel	300°C	II or IIC		X		X	X	X																						X		X
Agricultural fertilizers industry	500°C	II or IIC																												X			

Note: The mixtures of gas are mentionned as information only.

ANATOM78S-PL-EEX+AWAX26XXL-EEX:
GAS Ex ia IIC T4
DUST : II 1 GD IP6X-T135 °C

ANATOM78S-OX-EEX+AWAX26XXL-EEX:
GAS : EEx ia IIC T4
DUST : II 2 GD IP6X-T135 °C

USE OF TABLE:
Example of “manufacture of plastic matters”. The “X” in the table show the presence of the gas. For the gas that has the lowest temperature of self-ignition (300°C), the electrical equipment which is installed must have a temperature less than 300°C, so be classed T3, T4, T5 and T6.
the most explosive gas is the acethylene (Group II C). The equipment must be classed at least IIC T3.
Our equipment is not designed to be used with the following gas: Nitrite of ethyl and carbon bisulphide (red boxes)

High tolerance of misalignment: 10 mm
Led incorporated / Mounting brackets

Technical characteristics	ANATOM 78S-EEX	
Power supply	12V DC	
Consumption	30mA DC	
Safety contacts	2NO static isolated	
Auxiliary line	1 NC static PNP 15 mA	
Protection class	IP67	
Temperature	-20°C/+40°C	
detection distance / hysteresis	10mm/4mm (typical)	
dimensions LxIxh	Transmitter 92x23x18 mm	Receiver 92x23x23
Weight	Transmitter 80g Polyamide 6	Receiver 620g Polyamide 6

Equipped with
ACOTOM ® 2 process

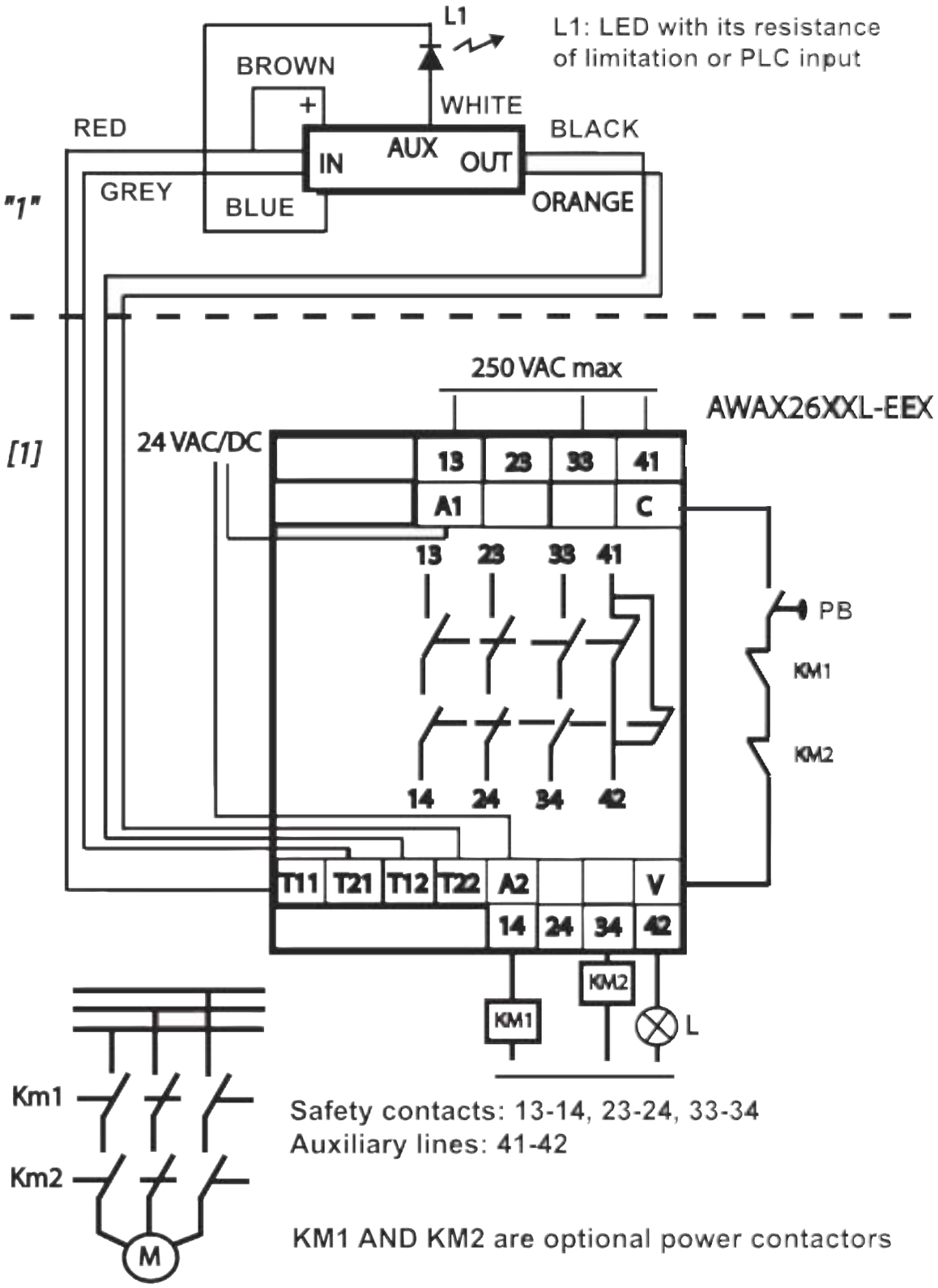
3 NO safety contacts and
1 NC auxiliary contact of 8A / 250V

Technical characteristics	AWAX26XXL-EEX
Power supply (Un)	24VAC 50Hz/60Hz or 24VDC
Tolerance of Un	-15% / +10%
Consumption DC/AC	More than 2W (DC); More than 5VA (AC)
Electrical protection	DLC: Electrical circuit-breaker with a current limiting system
Safety contacts	8A / 250VAC resistive
Minimum switching capacity	Less than 50 mW
Response time	More than 20ms
Protection class	IP20
Temperature	-20°C / +40°C
Life expectancy	10 million mechanical operations
Dimensions L*I*h	45*100*111 mm
Weight	250 g

Category 4 according to EN 954-1
Zener barrier incorporated

WIRING DIAGRAM

Safety switch ANATOM78S-EEX



Safety contacts: 13-14, 23-24, 33-34
Auxiliary lines: 41-42

KM1 AND KM2 are optional power contactors

COMITRONIC

DISTRIBUTED PRODUCTS

COMITRONIC

Competitive price

POWER SUPPLY

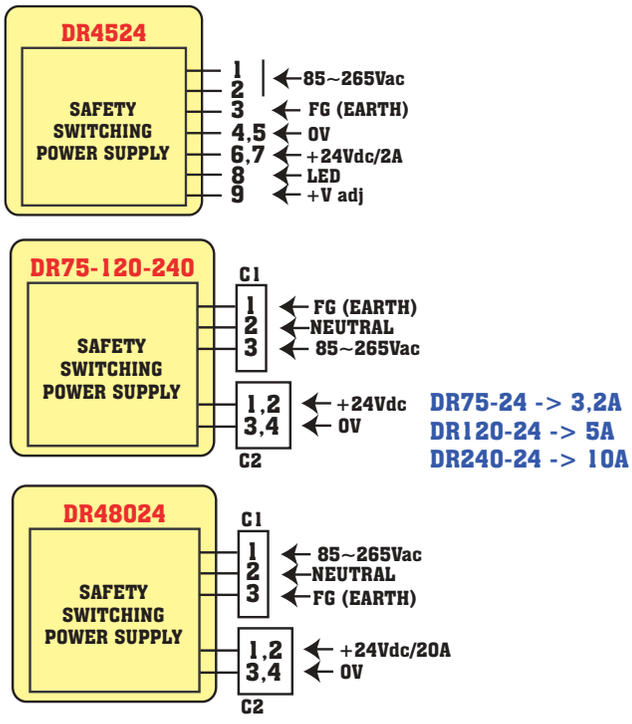
POWER SUPPLY FOR ELECTRICAL BOARDS

- Primary single phase: 85~265Vac (40~440Hz)
- Three-phase version : 400~500Vac
- Secondary : 24Vdc
- Single phase, nominal current : 2A / 3,2A/ 5A/ 10A/20A
- Three phase, nominal current : 5A/10A/20A
- Efficiency: 78~89%
- Regulation rate : 0,1~1%
- Primary/Secondary isolement : 3KV standard

SAFETY STANDARD

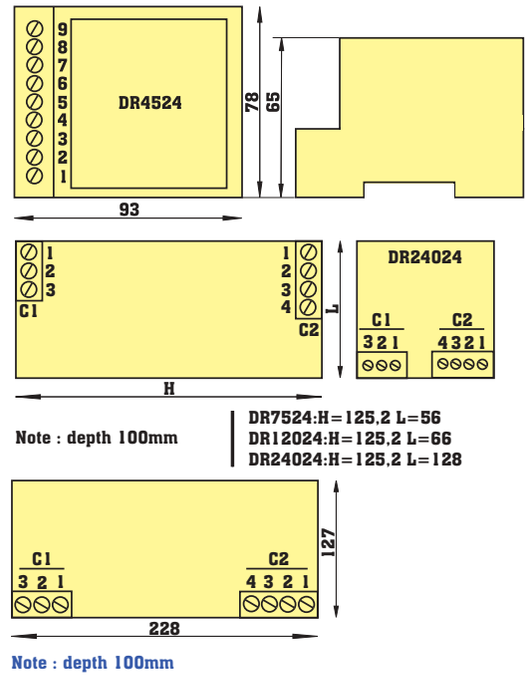
SERIE DR : EN60950, EN55022 class B, EN 61000-1-2,3,4,5,6,8,11

WIRING DIAGRAM



10A and 20A in Three Phase 400V

DIMENSIONS



APPLICATION

Switching power supply with regulation to avoid overvoltages and drop of voltage leading to a wearing effect of the material. Compact and light power supply on DIN rail.

COMITRONIC

KEY-OPERATED INTERLOCKS

LOCKING OF A COMMAND CIRCUIT CONTROLLED BY THE OPERATION OF ONE OR SEVERAL KEYS

GENERAL FEATURES :

Locking of a command circuit controlled by the operation of one or severals keys.

Provided with contacts 2NO/2NC (or 3NO/1NC 4KW / 3 *380 V to control small powers).

HOUSING :

Housing: Stainless Steel 316
Cylinder: Stainless Steel 316
Key: Stainless Steel 316
Contacts: 2NO/2NC ou 3NO/1NC 4kW / 3 *380 V

OPTION :

Housing IP55
Hood for the lock access

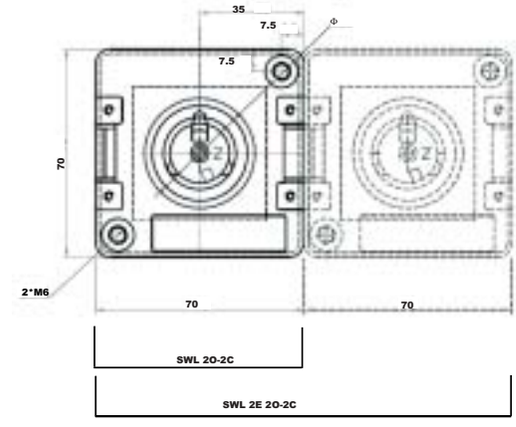
Référence :

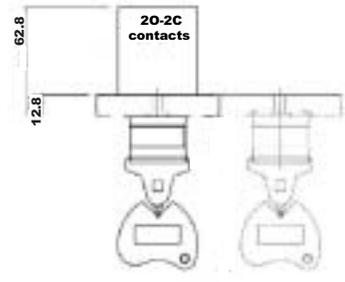
How many keys needed: 1E,2E,3E
Contact:2NO/2NC,2NO/4NC,3NO/1NC
Example SWL 1E,3O-1C

SAFETY STANDARD

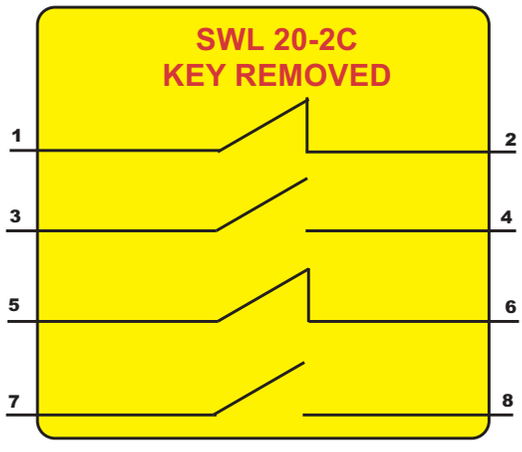
Key transfert : EN 292-1 and 2, EN 1088

DIMENSIONS





WIRING DIAGRAM



COMITRONIC

KEY-OPERATED INTERLOCKS

LOCKING SOLUTIONS FOR ALL TYPES OF DOORS

GENERAL FEATURES FOR ACCESS LOCK:

Locking solutions for all types of doors.
Latch in 3 positions, entraxe 85 mm

HOUSING:

Housing: Stainless Steel 316
Cylinder: Stainless Steel 316 Easy code
Key: Stainless Steel 316 Easy code
Latch: Stainless Steel 316

OPTION:

Hood for the lock access: CE
Latch with chain 20 CM ref: CO.2

ADDITIONAL MODULES:

+ 1 key: 2E
+ 2 keys: 3E

ELECTRICAL CONTACT:

1NO+1NC ref : MCU

ACS:

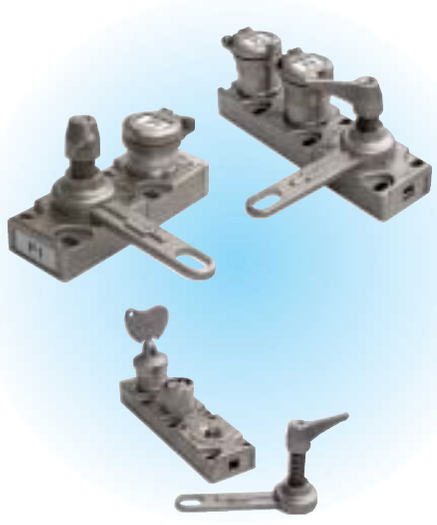
Free key / Access locked.
The manipulation of the key allows the unlocking of the access. The key stays locked as long as the door isn't closed.

OPTION:

Latch with chain
Additional module to add key (up to 5keys)
M+ : addition of free key
M- : addition of locked key

SAFETY STANDARD

Key transfert : EN 292-1 et 2, EN 1088



GENERAL FEATURES FOR LOCK WITH BOLT:

Locking of area with bolt (diam.: 10 or 15 mm)
From 1 up to 3 keys.

MATTER:

Housing: Stainless Steel 316
Cylinder: Stainless Steel 316
Key: Stainless Steel 316

OPTION:

Hood for the lock access: CE
Electrical contact: 1NO+1NC ref: MCU
Example: BLT10, BLT15 or BLT10 3E

COMITRONIC

LOCK

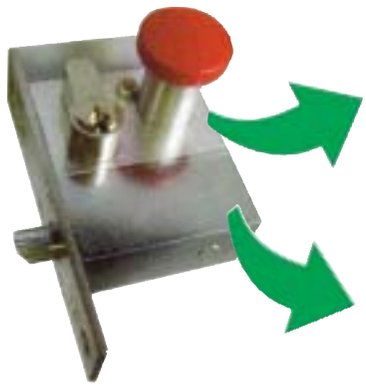
LOCK FOR HEAVY DOORS

- Power supply 24Vac or dc, 120V or 240V
- In-rush current :
- Maintained current 20W
- Bolt contact 2A (input or output)
- 14 mm bolt
- Extraction locking force : 5000N

STANDARDS

VAMF-CP série : EN1088

NEW:



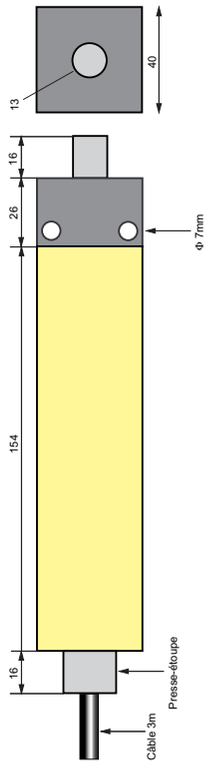
Electrical and mechanical locking. Locking detection. Standard fixing.

Antipanic lock used on exits of dangerous zones or in fire evacuation.

CODING USED IN VAMF LOCKS

VAMF : locking out of voltage DC or AC
CP : pull-up contact
P : locking under voltage
B : bevelled bolt
E : waterproof
S : releasing lock
G : blocking part
C : connector M12
T : 24Vdc, 24Vac, 120Vac or 240Vac
Code example : VAMF-CP-B-24Vdc

DIMENSIONS



FUNCTIONING

Locking of heavy doors. To maintain heavy loads in position (e.g. elevator platforms) please use the series: VA3, VA6 or VA12.

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ELECTROMAGNETS

MAINTAIN OF DOORS

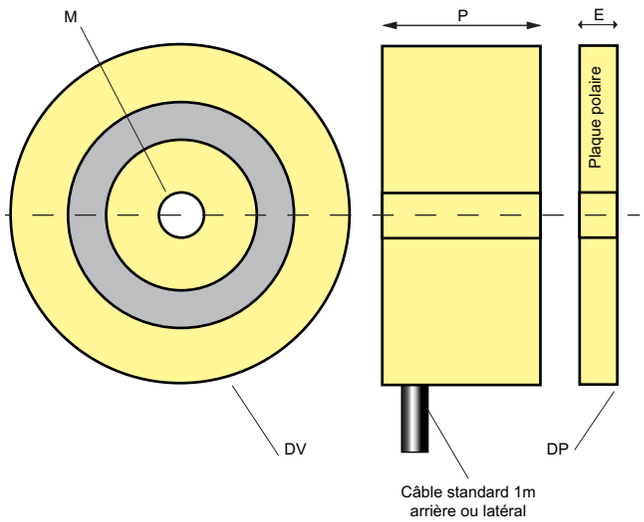
- Power supply 12Vdc or 24Vdc
- Consumption from 0,8 to 20W
- Cylindrical electromagnet in two versions:
  VEM: lack of current = unlock
  VDM: current on = unlock
- Extraction force when locked :
  VEM : 120N to 6000N
  VDM : 120N to 800N
- Waterproof version

CODING

	Force	Watt	DV	P	M	DP	E
Fire safety							
VEMP 30-20	20	1,2	30	20	4	32	4 or 5,5
VEM 45-50	50	1,8	45	21	6	50	5
VEM 60	100	3,5	60	32	6	60	7
VEM 80	210	5	80	35	8	80	10
VEM 100	330	7	100	35	8	100	12
VEM 150	600	20	150	50	8	150	12
Machine safety							
VDM 30-20	20	3	30	32	4	32	4 or 5,5
VDM 45-40	40	1,2	45	38	6	48	7
VDM 60		80	1,8	60	38	6	60

Note : Latching force is given in DecaN

DIMENSIONS



FUNCTIONING

VEM range - for fire protection
VDM range - for machine safety

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NEW APPLICATIONS

OPTOPUS DEC

ANATOM 6S
ANATOM 78S

control of acces

bank airlocks

cinemas

hotels

ANATOM M18

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moving advertising panels

Replace inductive and reed contact switches by ACOTOM technology
+ Safety at work
+ Uncheatable and reliable
+ Flexibility of use

MOUNTING

EXAMPLES

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