COMITRONIC - BTI

MANUFACTURER OF SAFETY MATERIAL
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REACH CONFORMITY

RoHS Compliant

EC DECLARATION OF CONFORMITY

This document is the conformity declaration concerning safety switches and relays, conform to the Machine Directive 2006/42/CE and the Directive 2004/108/CE.

SAFETY SWITCHES

We hereby certify that the hereafter described safety components both in its basic design and construction conforms to the applicable European Directives.

Name of products :

Range	Safety Standards	Conformity
AMX3	**IEC 60947-5-2** **IEC 60947-5-3** **EN 62061 / ISO 13849-1** **UL508 NKCR/C22.2 14M91**	**CE/UL/CSA**
AMX4		
AMX5		
AMX5-OX		
AMX3-OX		

PL=d acc. EN ISO 13849-1
SIL 2 acc. EN 62061
Classification=PDF-S
acc. EN 60947-5-3
Input Power Supply = 24VDC
Checking period=1/year
PFH=1,42 E-08
PFD=1,24 E-03
PROOF TEST=20 a
dop=365 j
hop=24 h
F=1/h
B10d=2.000.000
Supply : 24 VDC PELV/SELV
Type 4 acc. ISO 14119
average level on request

Description :
Coded safety switch with process Acotom$_3$® for detects the position of the doors. It can used without safety relay.

Person authorized for the compilation of the technical documentation :
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Place and date of issue : Noisy, 18 dec. 2014

Authorised signature
Michel Conte
Director

PROCESS ACOTOM®
BTI
SECURITE MACHINE

Launching year 2000

AMX4 and AMX5 sensors : technical data sheet V3.7

You have just purchased a BTI product – thank you for your confidence in BTI products.
This high-tech product has been developed and manufactured to the highest quality standards to ensure maximum reliability.

1. Scope of application

AMX4 and AMX5 devices are coded electronic autonomous sensors using our ACOTOM3® process, allowing the opening of mobile protectors on dangerous machines to be detected.
It is able to detect its own failure and lock itself, preventing the safety line from closing. A sensor consists of two PA6 or 316L stainless steel (AMX5OX) transmitting and receiving parts. The receiver supplies two potential-free NO safety lines and an NC PNP (AMX5 or AMX5OX) auxiliary contact. This safety product must be checked at least once a year.

2. Fixing and wiring

Equipped with two square lugs, the two components can be easily fixed using a 4 mm diameter screw (stainless steel washers provided). The device is to be safely installed in such a way that the transmitter or receiver cannot be dismounted. Special stainless steel anti-tamper screws are available as an option (BH4). The receiver is fitted with a PVC multicore cable that is 5.5 mm in diameter and comes in a standard length of 3, 6 or 12 m (other lengths available on request). The sensor cable has to be wired in such a way that it is protected against external damage by using, for example, mechanical armouring. Once the sensor is wired, it is advised that the safety line (Red-Black or Orange-Grey) be checked, in order to ensure that there is no short-circuit.

3. Functioning

Supply: 24 VAC/DC. If the two targets of the transmitter and receiver are facing one other, and the code is recognised, the NO lines close and the auxiliary line opens (AMX5 or AMX5OX). The yellow LED lights up. If the code is not recognised, if there is a misalignment or if the sensor detects the failure of one of its safety contacts, the functional line opens. Please ensure that the sensor and receiver do not have mechanical contact when the door is closed and keep a distance of 1 mm between the two parts. Detection is carried out up to a distance of 10 mm. When a material is located between the transmitter and the receiver, a test should be performed to determine the distance of detection. The AMX5 auxiliary line (white) is open when the switch is not supplied. The device is to be installed in such a way that it is not possible to insert parts of the body such as fingers or hands through the door in dangerous areas.

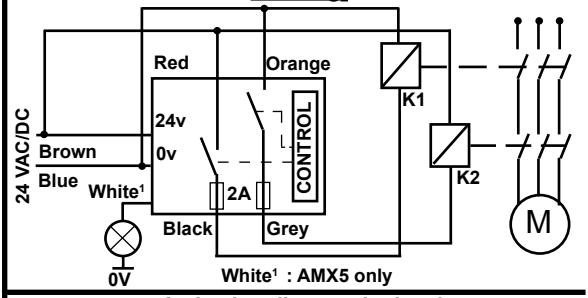
4. UL508-conformity information

Wiring	**60/75°C copper only**
Wire size	**24AWG**
Tension force	**0,68Nm**
Enclosure type 1/70°C ambient	**UL supply of 4 A max. listed 24 V class 2 or transformer protected by UL fuse**

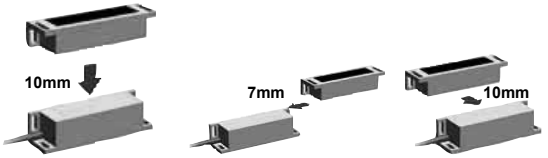
5. Technical characteristics

Supply voltage PELV/SELV IEC 60204-1	24 VAC -15% / +10% 50/60Hz (compliant) 24 VDC -15% / +10% (certified)
Rated operating current	40 mA (DC) / 50 mA (AC)
Protection class	II
Degree of pollution	3
Ambient temperature	-25 °C / +60 °C
Protection class	PA6:IP 67/68 (EN60529) / 316L:IP 69K
Resistance to vibration	10~55 Hz, 1.5 mm double amplitude
Resistance to shock	10 g
Switching frequency	< 2 Hz
Response time	< 400 ms (Ton)
Duration of risk	< 15 ms (Toff)
Safety line	AC1-AC15-DC13 : 50 VAC/DC / 2 A pilot duty & general use (5 VDC/10 mA mini)
Auxiliary output	NF : 24 V / 250 mA general use
Diagnostic output System protection	Short-circuit proof (internal fuse) Short-circuit protection (internal fuse)
Détection distance emitter/receiver (IEC 60947-5-3)	Sn=12 mm (rated switching distance) Sao=10 mm (assured switching-on distance) Sar=15 mm (assured switching-off distance) Hysteresis 2 mm Repeat accuracy < 5%

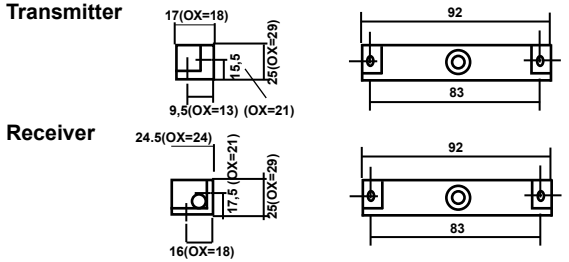
6. Wiring



7. Activation distance in the air



8. Size (mm)



UL certification no. E214209 / TÜV Rheinland certification