



# Datasheet of RDX8 switch



## 1. Application

RDX8 switch detects the opening of a safe access. It comprises a transmitter and a receiver and is contactless. This device is the anti-fraud type and does not work if a magnet is applied to try to inhibit it. The product meets the essential requirements for the safety of Directive 94/9/EC and for which a declaration of Conformity is available. Due to their low self-heating, magnetic switches RDX8 well suited for high ambient temperatures (70 ° C with a temperature class T6), they never reach the ignition temperature of the gas or dust. The RDX8 be used in Area 2/22 within the parameters indicated in the table of electrical features. It provides 2 lines NO and NC line redundant and synchronized.

## 2. ATEX Safety and MACHINE safety

ATEX Category : 3GD  
 ATEX Area : 2/22  
 Gas protection: Ex nC IIB T6 X  
 Dust protection: Ex tD A22 IP67 T80°C X  
 Covered standards: EN 60947-5-3, EN 61241-1, EN 60079-15  
 Performance level : up to PL = e according to ISO 13849-1 associated with a safety module (AWAX26XXL-EEX3)  
 Classification: up to PDF-M to EN 60947-5-3 and associated with a safety module (AWAX26XXL-EEX3)  
 B10d = 25 million to 20% load (30 mA)  
 Time of service : TM = 20 years  
 Operating temperature : -5 ° C to +70 ° C

## 3. Using

The installation of this product requires that you have a skill in ATEX. This system is designed to be installed on a door or a movable guard machine. Before installation, you must perform a risk assessment to ensure that the features of this device are appropriate criteria for use and environment of the machine.

## 4. Zener barrier ATEX

The RDX8 is rated "nC / tD" it is not necessary to use a zener barrier. However, it can be proved that the equipment never undergo alteration throughout its life (eg mechanical ZRX8 shocks that would alter the seal). We recommend using a zener barrier ZRX8 ensure safety. The case is a standard size 45mm DIN rail mounted.

## 5. Directive Machine 2006/42/EC and Directive Atex 94/9/EC.

If the product is intended to RDX8 a dangerous machine then you must ensure compliance with the Machinery Directive. In this case you must use the safety controller AWAX26XXL-EEX3 that incorporates a dual-channel zener barrier for ATEX and a controller discrepancy according to ISO 13849-1. The case is a standard size 45mm DIN rail mounted.

## 6. Mounting and dismounting

Have two legs brackets, the two elements (transmitter and receiver) is easily fixed using screws 4mm diameter (washers ZU4 provided). Tamper screws and tool option. The receiver is equipped with a multiconductor cable AWG23 diameter 5.5mm and length of 12m standard.

## 7. Maintenance and fixing

During the whole operating life of the machine, by respecting the frequent checking, be sure that the device is still fully operational. The mounting must be controlled to find any print of breakings, damages or manipulation. If necessary, replace the device. BTI can not be held as responsible for a damage on this device if the procedures described in this document have not been correctly respected or if the device is used in an unusual condition. The safety switches must be so installed that they don't touch each other when the doors are moving to avoid any damages. We advice to install mechanical guides on the doors. The respect of the frequent checking and of the fixing guidelines are necessary to benefit of the warranty.

Every 6 months :  
 Switch off power. Check the cleanness of the device. Clean any dirtiness. Check screws. Switch on again and check the whole circuitry functioning. Check alignment transmitter / receiver. The distance between the two parts when the door is closed must always be positive, we recommend 3 ~ 5 mm. Restore power and check for proper operation of the circuit safe.

## 8. Installation

Installation of the electrical system and all safety switches must be done by the responsible company operating on the industrial site.

## 9. Serial number RDX8



## 10. Electrical features

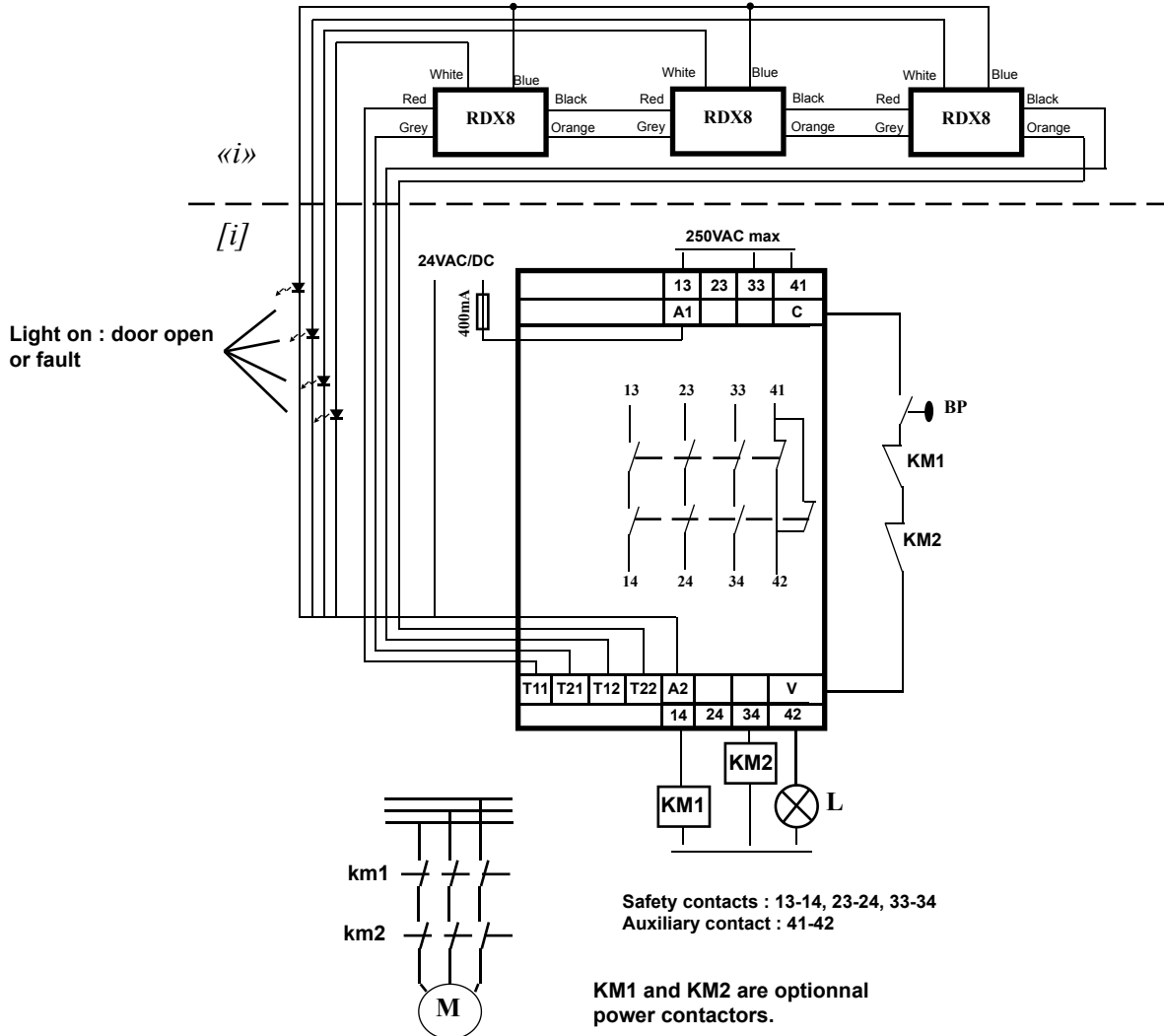
Nominal voltage (dc)	24 V (30 V)
Static nominal current	150 mA on the 3 lines
Max. nominal current/contact	30 mA
Peak nominal intensity	150 mA
Cable max. capacitance	Contact = 300 mΩ / cable= 78 mΩ/m
Cable inductance	Li = 0,39 μH/m
Cable capacitance	Ci = 270 pF/m + 3pF
Switch insulation resistance	10 <sup>9</sup> Ω
Cable operating voltage	300 V
Switching distance ON	17 mm
Switching distance OFF	22 mm
Axial misalignment	+/- 4 mm
Vertical misalignment	+/- 12 mm
Operating temperature	-5 °C / +80 °C
Protection class	IP 67
Resistance to vibration	(50-2000 Hz) 30 g
Resistance to shock	(1/2 sin 11 ms) 50 g
B10d	62 500
Dimensions L x H x W receiver	92 x 25 x 25 mm
Dimensions L x H x W emitter	92 x 25 x 18 mm
Weight of receiver/emitter	250 g



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## 10. Wiring diagram



**IMPORTANT :**  
Check the dip-switch status (N/SR)  
at the back of the device

## 11. Detail of the RDX8 switch wiring on an external relay in area 3G/3D

