RFID Coded Non Contact with Auto Test **Type: RAMZSense LPZ**

FEATURES & APPLICATION:

IDEM's RAMZSense LPZ Intelligent Series Non Contact Coded switch has been developed to provide and maintain a high level of functional safety whilst providing tamper proof RFID coded activation.

They will connect to most popular standard Safety Relays to maintain a PLe Safety Level even with switches connected in series.

They are offered in high specification plastic housings and can be used in almost any environment including areas where high pressure cleaning following contamination from foreign particles is a requirement.

They have IP69K ingress protection and are suitable for CIP and SIP processes.

They have easy to understand LED diagnostic functions and provide auxiliary outputs for extra diagnostic signals to PLCs or computers.

The typical sensing distance "ON" is 12mm with wide tolerance to guard misalignment after setting.

Coding is achieved by using magnetic and radio frequency techniques, both principles need to be satisfied for the switch to operate safely.

The RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

The RAMZSense LPZ switches are available in 2 Versions:

VERSION 1: **Type M** Master code - by series (any actuator will operate any switch) used when unique door activation is not required, but the benefit of RFID makes it virtually impossible to be overridden or by-passed by simple means.

VERSION 2: **Type U** 32,000,000 Unique codes - these switches are factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

SAFETY RELIABILITY:

The RAMZSense LPZ switches employ two microprocessors and they use IDEM's intelligent system to check all switches at each safety demand. Safety Reliability up to ISO13849-1 PLe.

MAIN USER BENEFITS:

- RFID provides a high degree of anti-tamper - virtually impossible to override.
- Unique RFID or series coding RFID available.
- Maintains PLe by employing IDEM's technique at each safety demand.
- Connect up to 20 switches in series.
- Able to connect to most popular Safety Relays without the need for special controllers.
- Ability to connect to other switches and Emergency Stops in series.

FUNCTIONAL SPECIFICATION:

High Functional Safety to ISO13849-1 - connects to most Safety Relays to maintain PLe.

RFID Coded actuation to provide high tamper proof interlock security on Guard Doors.

Safety Outputs short circuit protected.

One Auxiliary circuit for indication of door open.

No moving parts - high switch life and resistance to shock and vibration.

M12 Male 8-way Quick Connector versions available (Flying Lead 250mm (10")).

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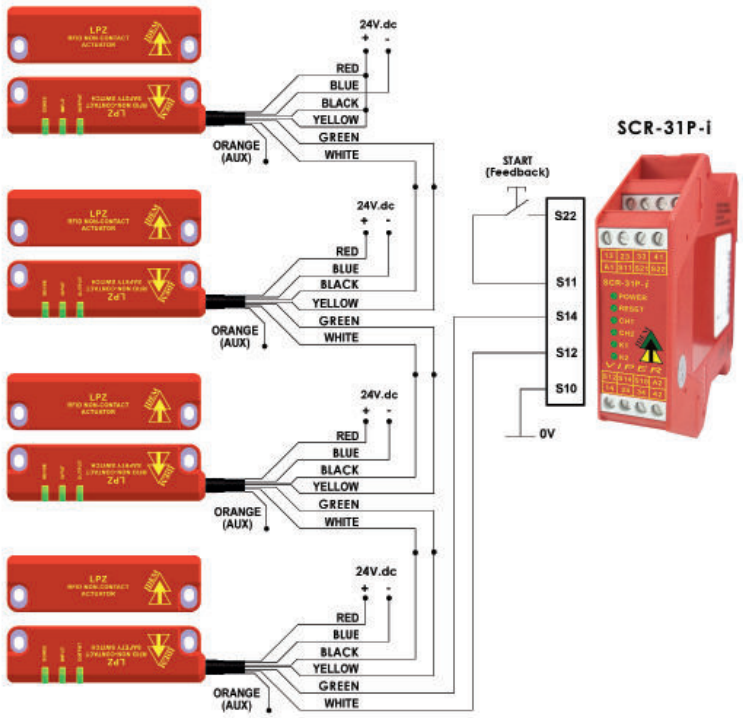
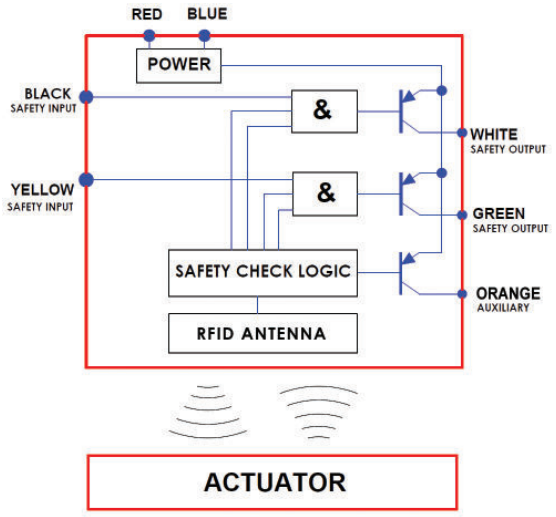
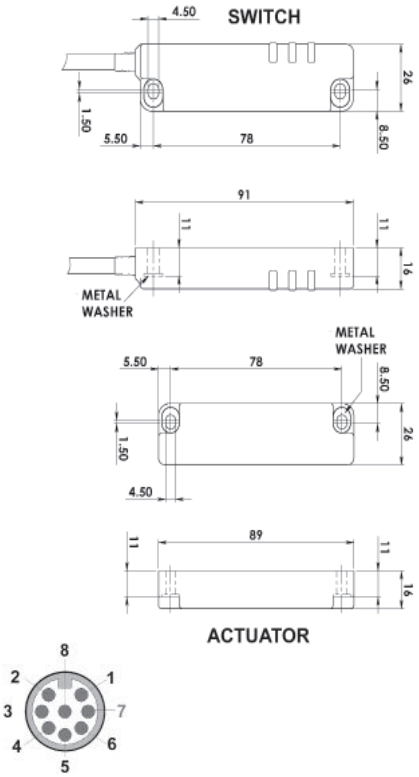
CONNECTION EXAMPLE:



PRINCIPLE:



DIMENSIONS:



Quick Connect QC M12 8 Way Male Plug Pin view from Switch	Flying Lead Colour	Circuit (Actuator Present)
2	Red	Supply +24Vdc
3	Blue	Supply 0Vdc
7	Black	Safety Input 1
1	White	Safety Output 1
4	Yellow	Safety Input 2
6	Green	Safety Output 2
5		Not used
8	Orange	Auxiliary

For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

Standards:	ISO14119 EN60947-5-3 EN60204-1 ISO13849-1 EN62061 UL508
Safety Classification and Reliability Data:	
Minimum switched current:	10V.dc 1mA
Dielectric Withstand:	250V.ac
Insulation Resistance:	100 Mohms
Recommended setting gap:	5mm
Switching Distance:	Sao 10mm Close Sar 20mm Open
Tolerance to Misalignment:	5mm in any direction from 5mm setting gap
Switching frequency:	1.0 Hz maximum
Approach speed:	200mm/m to 1000mm/s
Body material:	Polyester
Temperature Range:	-25/80C
Enclosure Protection:	IP67, IP69K
Cable Type:	PVC 6 or 8 core 6mm OD Conductors 0.25mm^2
Mounting Bolts:	2 x M4 Tightening torque 1.0 Nm
Mounting Position:	Any

Characteristic Data according to IEC62061 (used as a sub system):

Safety Integrity Level	SIL3
PFH (1/h)	4.77E-10 Corresponds to 4.8% of SIL3
Proof Test Interval T_1	20a

Characteristic Data according to EN ISO13849-1:

Performance Level	e If both channels are used in combination with a SIL3/PLe control device
Category	Cat4
MTTFd	1100a
Diagnostic Coverage DC	99% (high)
Number of operating days per year:	d_{op} = 365d
Number of operating hours per day:	h_{op} = 24h
B10d	not mechanical parts implemented

When the product is used deviant from these assumptions (different load, operating frequency, etc.) the values have to be adjusted accordingly.

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
402102	RAMZSense LPZ-U	5M
402103	RAMZSense LPZ-U	10M
402104	RAMZSense LPZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
402002	RAMZSense LPZ-M	5M
402003	RAMZSense LPZ-M	10M
402004	RAMZSense LPZ-M	QC-M12
402200	Replacement Actuator Master Coded	

140101	Female QC Lead	M12 Female 5m. 8 way
140102	Female QC Lead	M12 Female 10m. 8 way