RFID Coded Non Contact Switches - Types LP-RFID and SP-RFID

The LP-RFID and SP-RFID Non Contact Coded switches have been developed to provide and maintain a high level of functional safety whilst providing a very high anti-tamper coded activation.

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

They will connect to most popular standard Safety Relays to achieve up to PLe / Category 4 to ISO13849-1.

They are offered in high specification plastic housings and can be used in almost any environments including high pressure cleaning following contamination from foreign particles.

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

The typical sensing distance ‘on’ is 14mm with wide tolerance to guard misalignment after setting.

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

The LP-RFID and SP-RFID are available in 2 types either coded by series or uniquely coded.

Type 1  LP-RFID-M or SP-RFID-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.

Type 2  LP-RFID-U or SP-RFID-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.

Main user benefits
1) RFID provides high degree of anti-tamper - virtually impossible to override
2) Unique RFID or series coding RFID available - depending upon user’s risk assessment.
3) Able to connect to most popular Safety Relays to achieve up to PLe and Category 4 for ISO13849-1.
4) Connect up to 20 switches in series.
5) Ability to connect other switches and E Stops in series.

Functional Specification:
High Functional Safety to ISO 13849-1 – connects to most Safety Relays to maintain PLe Cat.4.
RFID Coded actuation to provide high tamperproof interlock security on Guard Doors.
Diagnostic LED:
LED Green – Indication of Safety Circuits closed
2NC Safety Outputs short circuit protected
1NO Auxiliary Output for indication of door open
No moving parts – high switch life and resistance to Shock and Vibration
M12 Male  8 way connector versions available (Flying Lead 250mm (10 inches))
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<table>
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<th>Quick Connect (QC)</th>
<th>Flying Lead Colours</th>
<th>Circuit (Actuator Present)</th>
<th>Output Types Solid State</th>
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<tbody>
<tr>
<td>M12 8 way Male Plug</td>
<td>Orange Auxiliary NO</td>
<td>200mA Max. 24Vdc</td>
<td>200mA Max. 24Vdc</td>
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<tr>
<td>(Pin view from switch)</td>
<td>5 Brown Auxiliary NO</td>
<td>200mA Max. 24Vdc</td>
<td>200mA Max. 24Vdc</td>
</tr>
<tr>
<td></td>
<td>4 Yellow Safety NC2</td>
<td>200mA Max. 24Vdc</td>
<td>200mA Max. 24Vdc</td>
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<td></td>
<td>6 Green Safety NC2</td>
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<td></td>
<td>7 Black Safety NC1</td>
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</tr>
<tr>
<td></td>
<td>41 White Safety NC1</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>2 Red Supply +24Vdc</td>
<td>Supply 24Vdc +/- 10%</td>
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<td></td>
<td>3 Blue Supply 0Vdc</td>
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</tbody>
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Quick Connect: M12 versions fitted with 250mm (10") cable

Standards
- EN1088
- IEC 80947-5-3
- EN 60204-1
- ISO 13849-1
- EN 62061
- UL508

Safety Classification and Reliability Data:
- Switching Reliability: 3.3 x 10^6 operations at 100mA lead
- EN 954-1
- ISO 13849-1
- EN 62061
- IP65 depending upon system architecture
- Safety Data - Annual Usage: 8 cycles per hour / 24 hours per day / 365 days
- PFHd: 2.5 x 10^9
- Proof Test Interval (Life): 47 years
- MTTF: 470 years
- Maximum Rating: 24Vdc 0.2 A Max. Rating
- Minimum switched current: 10V. dc 1mA
- Dielectric withstand: 250V ac
- Insulation Resistance: 100 Mohms
- Recommended setting gap: 5mm
- Swinging Distance: Safety 10mm Close
- (Target to target): Sar 20mm Open
- Tolerance to misalignment: 5mm in any direction from 5mm setting gap
- Approach speed: 200mm/min. to 1000mm/s.
- Body Material: UL Approved Polyester
- Temperature Range: -25 / 105C.
- Shock Resistance: IEC 68-2-27 11ms 30g
- Vibration Resistance: IEC 68-2-6 10-55 Hz. 1mm
- Enclosure Protection: IP69K IP67
- Cable Type: PVC 8 core 6mm O.D.
- Mounting Bolts: 2 x M4

Sales Number: 404001
UNIQUE CODED: LP-RFID-U
(every switch unique activation)
Cable Length: 2M

Sales Number: 404002
UNIQUE CODED: LP-RFID-U
(every switch unique activation)
Cable Length: 5M

Sales Number: 404003
UNIQUE CODED: LP-RFID-U
(every switch unique activation)
Cable Length: 10M

Sales Number: 404004
UNIQUE CODED: LP-RFID-U
(every switch unique activation)
Cable Length: QC-M12

Sales Number: 404200
Replacement Actuator (re-teach)

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

Operating directions:

EN954-1:
One switch to one Safety Relay - Cat 4
Multiple switches to one Safety Relay - Cat.3.
Single switch connected to an SCR-2 or SCR-3 to give Dual Channel monitoring with Manual Start.

Sales Number: 405001
UNIQUE CODED: SP-RFID-U
(every switch unique activation)
Cable Length: 2M

Sales Number: 405002
UNIQUE CODED: SP-RFID-U
(every switch unique activation)
Cable Length: 5M

Sales Number: 405003
UNIQUE CODED: SP-RFID-U
(every switch unique activation)
Cable Length: 10M

Sales Number: 405004
UNIQUE CODED: SP-RFID-U
(every switch unique activation)
Cable Length: QC-M12

Sales Number: 405200
Replacement Actuator (re-teach)

Sales Number: 405101
UNIQUE CODED: SP-RFID-M
(every switch unique activation)
Cable Length: 2M

Sales Number: 405102
UNIQUE CODED: SP-RFID-M
(every switch unique activation)
Cable Length: 5M

Sales Number: 405103
UNIQUE CODED: SP-RFID-M
(every switch unique activation)
Cable Length: 10M

Sales Number: 405104
UNIQUE CODED: SP-RFID-M
(every switch unique activation)
Cable Length: QC-M12

Sales Number: 405201
Replacement Actuator Master

Sales Number: 140101
PART NUMBER: Female QC Lead 14-20 8 WAY 600 VOLT RG-174/U

Sales Number: 140102
PART NUMBER: Female QC Lead 14-20 8 WAY 600 VOLT RG-174/U

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