

Z-RANGE NON-CONTACT RFID with OSSD: OVERVIEW

FEATURES & APPLICATION:

IDEM's RFID with Auto Test Intelligent Series Non Contact Coded switches have 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 Stainless Steel 316 (mirror polished) or high specification polyester housings and can be used in almost any environment including areas where high pressure cleaning following contamination from foreign particles is a requirement.

All of the switches in the this range 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.

All of the Z-Range series of intelligent 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.

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.



MPZ



MMZ



LPZ



LMZ



BPZ



BMZ

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")).

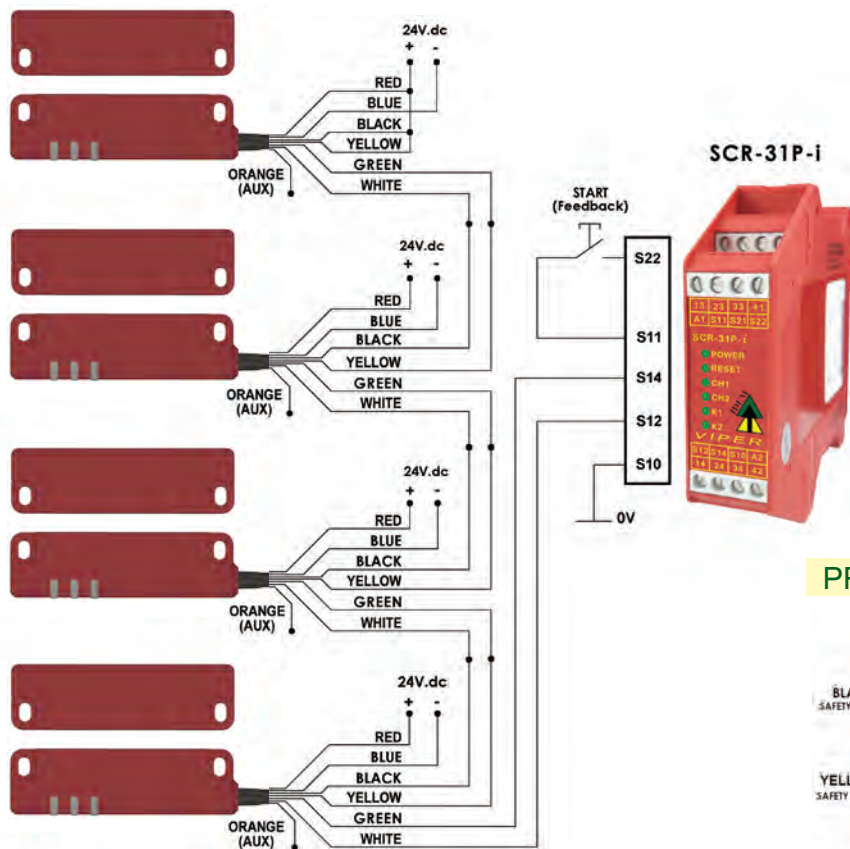
SAFETY RELIABILITY:

All of the switches in the range employ two microprocessors and they utilise IDEM's intelligent system to check all switches at each safety demand.

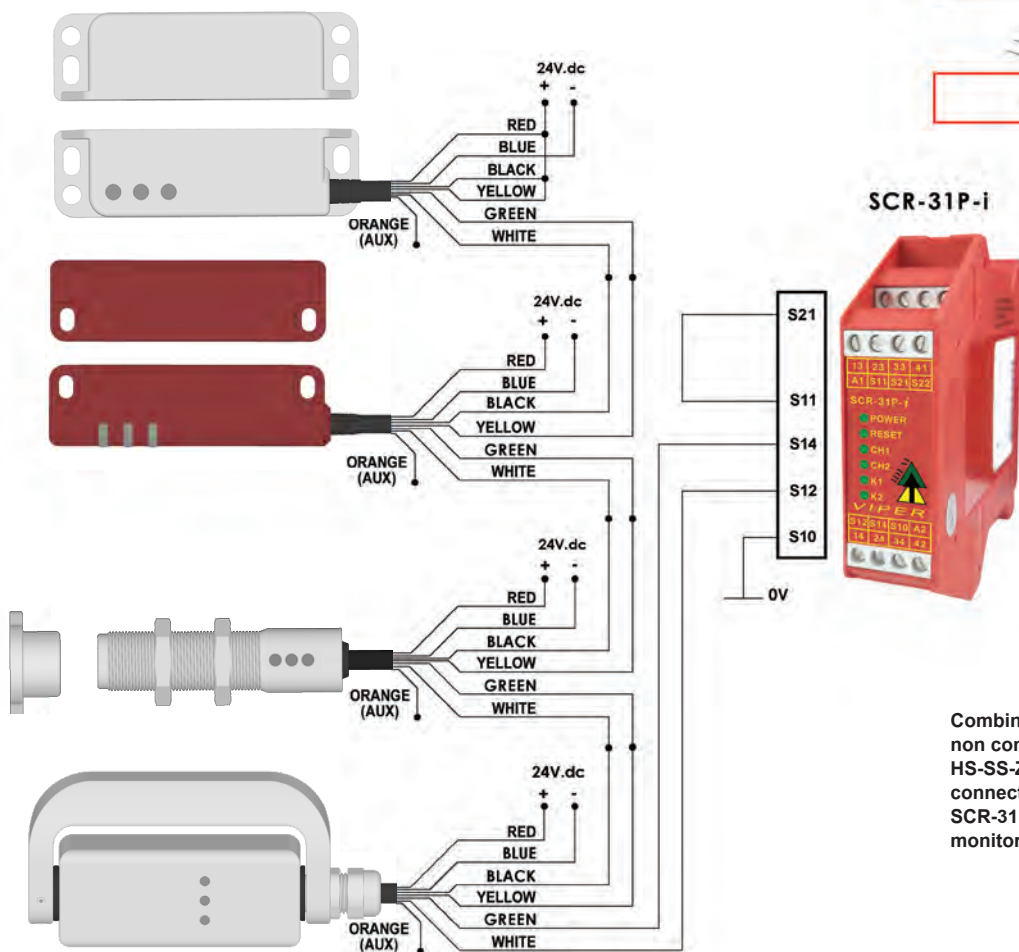
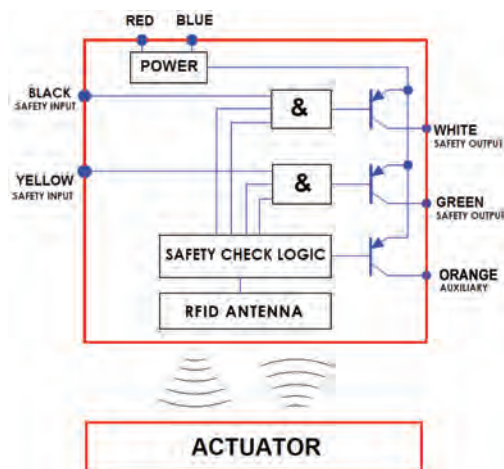
Safety Reliability up to ISO13849-1 PLe.

Z-RANGE NON-CONTACT RFID with OSSD: OVERVIEW

CONNECTION EXAMPLES:



PRINCIPLE:



Z-RANGE RFID with OSSD: MPZ & MMZ

FEATURES & APPLICATION:

NEW



Wraparound bi-colour indicators for on-switch diagnostics and easy fault finding.



Symmetrical design supports both left- and right-hand cable runs.



Compact housing with industry standard 22mm fixing holes.

The **MPZ RFID Safety Switches** are specifically designed for applications requiring a high level of manipulation protection. These switches are equipped with integrated OSSD outputs, allowing for direct connection to safety controllers, simplifying installation, and reducing costs.

The **MMZ** is the world's smallest 316 stainless-steel RFID safety switch. The MMZ has all the same features as the MPZ but can withstand pressure washing at high temperatures and is resistant to corrosive chemicals.

KEY FEATURES:

- **Suitable for High Safety Applications:** Suitable for applications up to Performance Level e (PL e).
- **Individually Coded Sensors:** Provides unique coding for each sensor, enhancing security and manipulation protection.
- **Diverse Mounting Options:** Offers various mounting possibilities, ensuring full flexibility in use.
- **High Misalignment Tolerances:** Capable of handling significant misalignment, along with shock and vibration resistance, ensuring reliable performance.
- **Series Connection Capability:** Allows the connection of up to 30 sensors in series without additional safety modules.

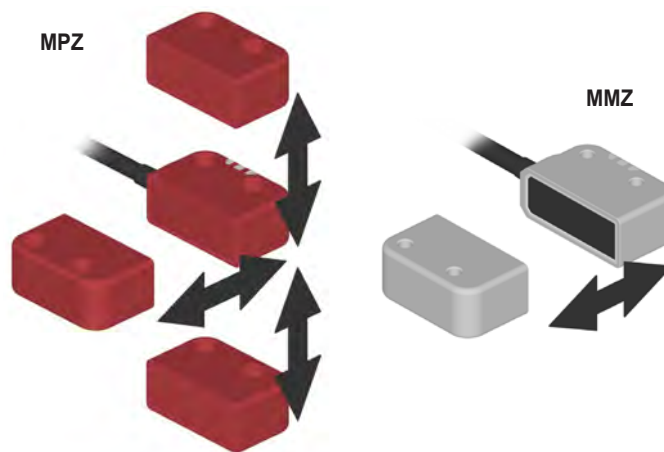
BENEFITS:

- **Only One Safety Module Needed:** Simplifies system architecture and reduces overall system cost.
- **Enhanced Manipulation Protection:** Meets stringent safety application requirements.
- **Flexible Mounting:** Accommodates a wide range of installation scenarios, enhancing usability.
- **High Machine Availability and Reliability:** Ensures consistent operation and minimizes downtime.
- **Cost and Time Efficiency:** Streamlines the use of multiple sensors, saving both time and money.

Compact and Space-Saving Design

The compact design of the MPZ & MMZ RFID Safety Switches allows for space-saving mounting, making them ideal for applications where installation space is limited.

OPERATIONAL DIRECTION:

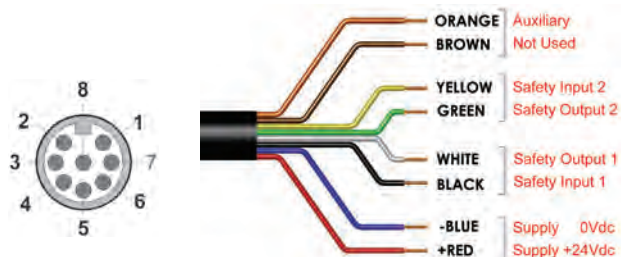


TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 8mm / SAR: 25mm
Recommended Setting Gap	3mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting
Material (MPZ)	Red Polyester
Material (MMZ)	316 Grade Stainless Steel
Enclosure Protection (MPZ)	IP67
Enclosure Protection (MMZ)	IP69K
Operating Temperature	-25C to +55C

Z-RANGE RFID with OSSD: MPZ & MMZ

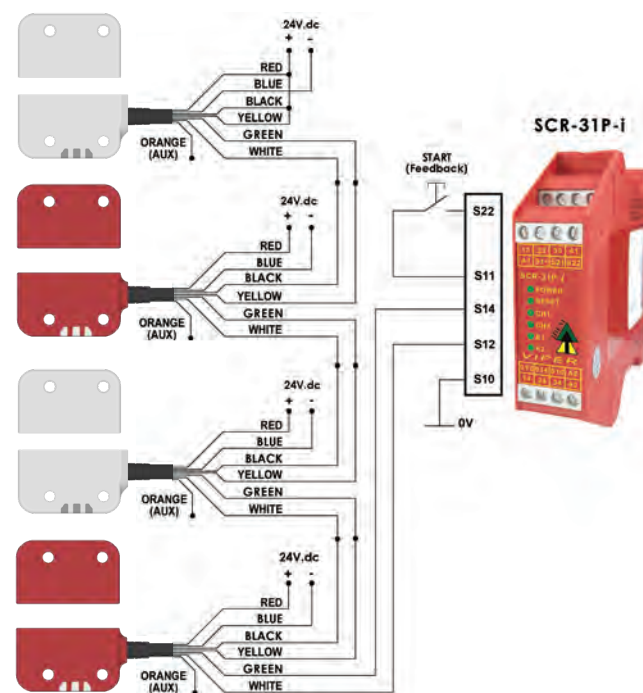
CONNECTIVITY:



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

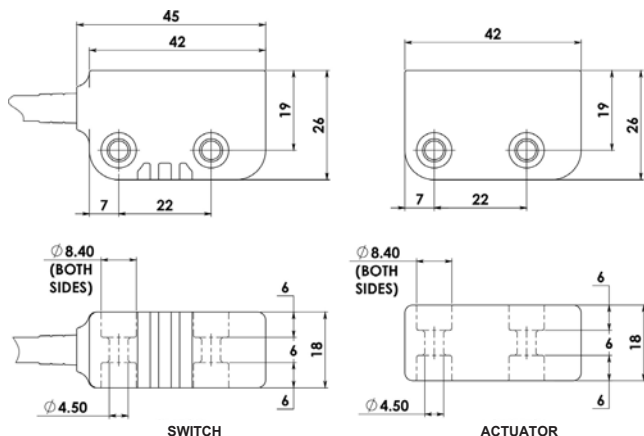
For all IDEM switches the normally closed (NC) circuits are closed when the guard is closed and the actuator is present.

CONNECTION EXAMPLE:

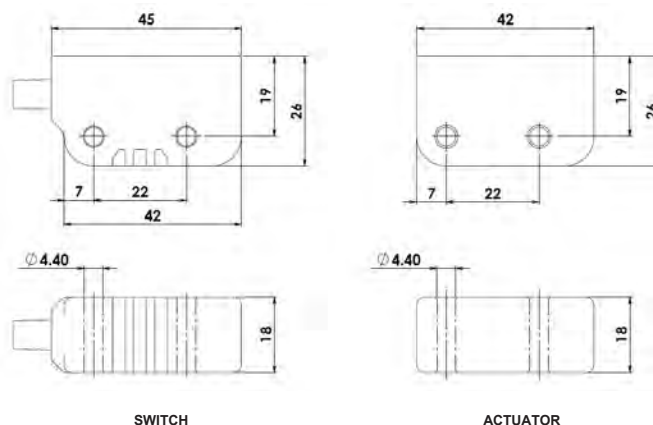


DIMENSIONS:

MPZ



MMZ



ORDERING:

Part Number	Description
417002	MPZ-A 5m Pre-Wired Any Code (Actuator Inc.)
417003	MPZ-A 10m Pre-Wired Any Code (Actuator Inc.)
417003	MPZ-A QC-M12 8-PIN Any Code (Actuator Inc.)
417102	MPZ-U 5m Pre-Wired Unique Code (Actuator Inc.)
417103	MPZ-U 10m Pre-Wired Unique Code (Actuator Inc.)
417104	MPZ-U QC-M12 8-PIN Unique Code (Actuator Inc.)
418002	MMZ-A 5m Pre-Wired Any Code (Actuator Inc.)
418003	MMZ-A 10m Pre-Wired Any Code (Actuator Inc.)
418004	MMZ-A QC-M12 8-PIN Any Code (Actuator Inc.)
418102	MMZ-U 5m Pre-Wired Unique Code (Actuator Inc.)
418103	MMZ-U 10m Pre-Wired Unique Code (Actuator Inc.)
418104	MMZ-U QC-M12 8-PIN Unique Code (Actuator Inc.)
Accessories	
Compatible with GBN-1 (See page 76)	
Compatible with GBN-3 (See page 77)	
Compatible with Z-Range Connection Accessories (See page 72)	

MPZ fitted to GBN-3



Connectivity Accessories



Z-RANGE RFID with OSSD: LPZ

FEATURES & APPLICATION:

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

High specification polyester housing, IP69K, can be used in almost any environment including high pressure cleaning with detergent.

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.

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

Available in 2 Versions:

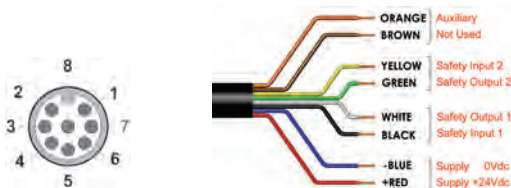
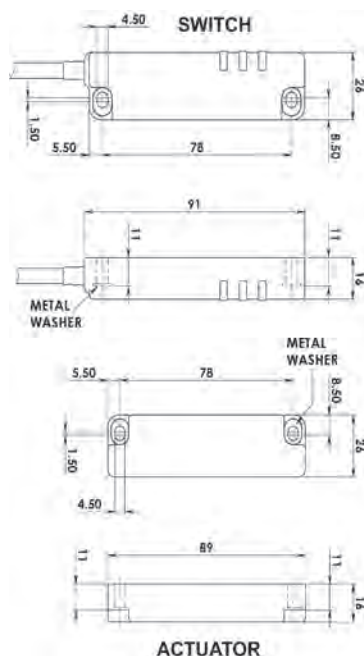
Type M Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.

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



Quick Connect M12 versions fitted with 250mm (10") cable

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

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 8mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	Red Polyester
Enclosure Protection	IP67
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

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

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
402002	LPZ-M	5M
402003	LPZ-M	10M
402004	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

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

Z-RANGE RFID with OSSD: LMZ

FEATURES & APPLICATION:

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

Mirror polished Stainless Steel 316 housing, IP69K, can be used in almost any environment including high pressure cleaning with detergent.

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.

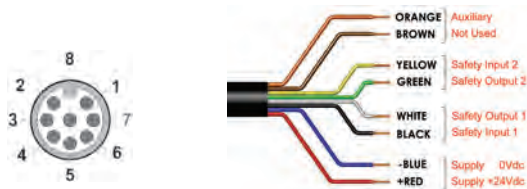
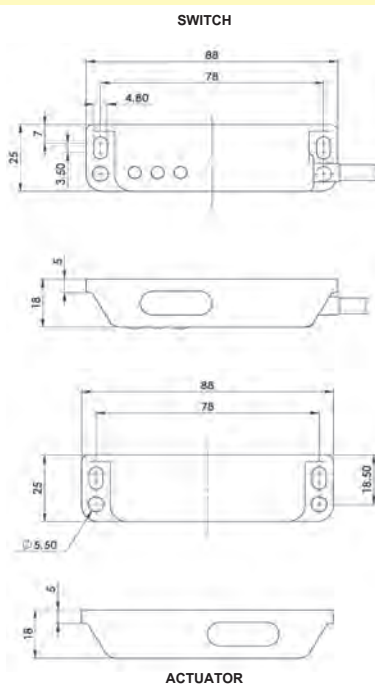
RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

Available in 2 Versions:

Type M Master code - any actuator will operate any switch.
For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.

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

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.



Quick Connect M12 versions fitted with 250mm (10") cable

TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 8mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	316 Stainless Steel
Enclosure Protection	IP69K (QC versions IP67 for connector)
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
412101	LMZ-U	5M
412102	LMZ-U	10M
412103	LMZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
412001	LMZ-M	5M
412002	LMZ-M	10M
412003	LMZ-M	QC-M12
412200	Replacement Actuator Master Coded	



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

Z-RANGE RFID with OSSD: BPZ

FEATURES & APPLICATION:

Will connect to most popular standard Safety Relays to maintain a PLE Safety Level even with switches connected in series.

M18 cylindrical barrel housing in high specification polyester, IP69K, can be used in almost any environment including high pressure cleaning.

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

The typical sensing distance "ON" is 10mm with wide tolerance to guard misalignment after setting.

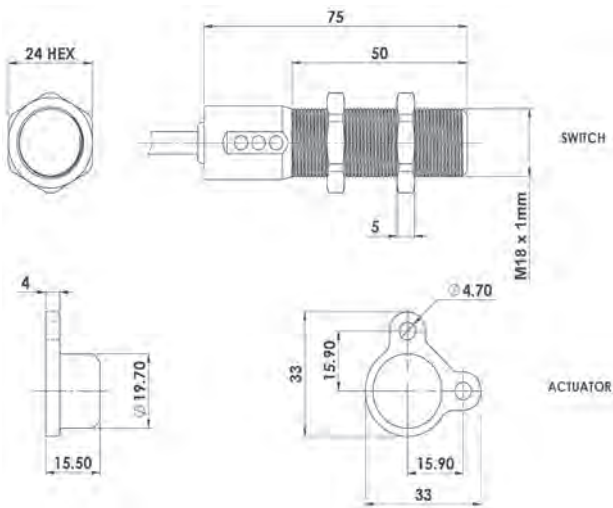
RFID sensing provides a tamper resistant operation when the actuator is in the sensing range of the switch.

Available in 2 Versions:

- Type M** Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.
- Type U** 32,000,000 Unique codes - factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.



DIMENSIONS:



TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 5mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	Red Polyester
Enclosure Protection	IP67
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
410101	BPZ-U	5M
410102	BPZ-U	10M
410103	BPZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
410001	BPZ-M	5M
410002	BPZ-M	10M
410003	BPZ-M	QC-M12
410200	Replacement Actuator Master Coded	

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

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

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

Z-RANGE RFID with OSSD: BMZ

FEATURES & APPLICATION:

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

M18 cylindrical barrel, mirror polished Stainless Steel 316 housing, IP69K, can be used in almost any environment including high pressure cleaning.

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

The typical sensing distance "ON" is 8mm with wide tolerance to guard misalignment after setting.

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

Available in 2 Versions:

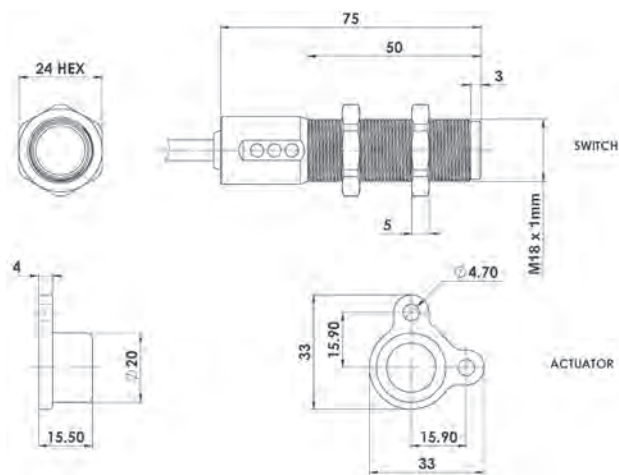
- Type M** Master code - any actuator will operate any switch. For when unique door activation is not required, but RFID makes it virtually impossible to be overridden or by-passed by simple means.
- Type U** 32,000,000 Unique codes - factory set and used when **unique** activation is required in areas where there are many interlocked doors and security of individual areas is required.

IP69K



Quick Connect M12 versions fitted with 250mm (10") cable

DIMENSIONS:



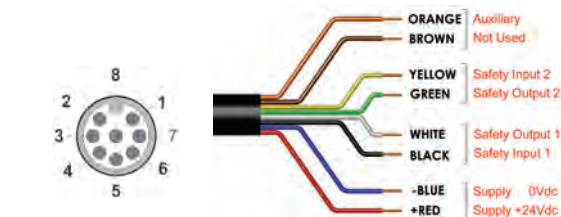
TECHNICAL SPECIFICATION:

Standards	ISO14119 EN 60947-5-3 EN 60204-1 ISO 13849-1 EN 62061 UL508
Supply Voltage	24 Vdc -15% +10% Use SELV/PELV
Power Consumption	0.7W
Outputs Rated Voltage	24Vdc Max: 0.1A / Min: 1 mA
Outputs Type	OSSD, PNP
Inputs Rated Voltage	24Vdc
Inputs Rated Current	2 mA
Auxiliary Circuits	24Vdc 0.2A Max. output current
Signalling Output Type	PNP
Assured Switching Distances	SAO: 5mm / SAR: 20mm
Recommended Setting Gap	5mm
Tolerance to Misalignment	+/-5mm in any direction from 5mm setting gap
Material	316 Stainless Steel
Enclosure Protection	IP69K (QC versions IP67 for connector)
Operating Temperature	-20C to +55C
Dielectric Withstand	250V.ac
Insulation Resistance	100 Mohms

PART NUMBERS:

SALES NUMBER	UNIQUELY CODED (every switch unique activation)	CABLE LENGTH
411101	BMZ-U	5M
411102	BMZ-U	10M
411103	BMZ-U	QC-M12

SALES NUMBER	MASTER CODED (same code every switch)	CABLE LENGTH
411001	BMZ-M	5M
411002	BMZ-M	10M
411003	BMZ-M	QC-M12
411200	Replacement Actuator Master Coded	



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.



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