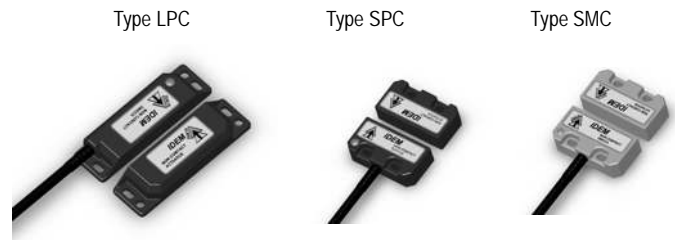


Non Contact Coded Safety Switches

Data Sheet Coded Magnetic Series



Using Coded Non Contact Safety Interlock Switches

Application:

IDEM Coded Non Contact switches are designed to interlock hinge, sliding or removal guard doors. They are specifically advantageous when :

- a) poor guard alignment exists
- b) tamperproofing is required
- c) high hygiene requirements exist e.g. food industry hose down
- d) a long mechanical life is required (no moving or touching parts).

When used In combination with approved Dual Channel Safety Modules, IDEM Coded Non Contact Switches can be used to provide up to Category 3 or 4.

Operation:

All IDEM Coded Non Contact Safety Switches are designed to conform to IEC 947-5-3 and be used as directed by EN1088 , EN 292 and EN 60204-1. They have a coded magnetic sensing system which provides a wide (>10mm) sensing distance and provides a high tolerance to misalignment after sensing. They can be fitted behind stainless steel fittings and can operate from 4 directions even in extreme environments of temperature and moisture.

Installation:

Installation of all IDEM Coded Non Contact Switches must be in accordance with a risk assessment for the individual application.

The use of a Safety module is required for monitoring IDEM Coded switches. These controllers monitor 2 redundant circuits as per EN 954-1 for up to Category 4 protection.

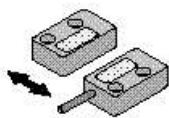
M4 mounting bolts must be used to fix the switches. Tightening torque for mounting bolts to ensure reliable fixing is 2 Nm. Always mount on to Non Ferrous materials. The recommended setting gap is 5mm. The Safety switch must not be used as a mechanical stop or be adjusted by striking with a hammer. The actuator must not be allowed to strike the switch. Do not mount adjacent switches or actuators closer than 30mm.

Typical misalignment tolerance after setting is 5mm in any plane.

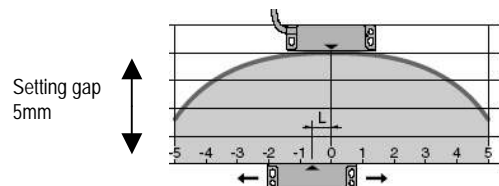
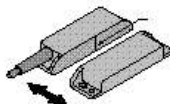
After installation always check each switch function by opening and closing each guard individually in turn and ensuring that the Green LED on the switch and the LED's on the Safety Modules are illuminated when the switch is closed and are extinguished when the switch is open. Check that the machine stops and cannot be re-started when each switch is open.

Actuator operating directions : Align actuator and switch using the target arrows.

Types SM SP



Type LP



5mm misalignment tolerance after setting

Maintenance:

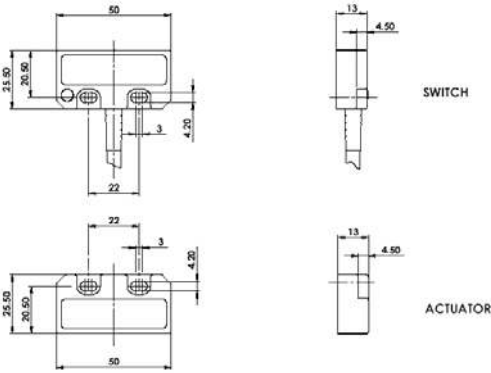
Monthly: Check alignment of actuator and look for signs of mechanical damage to the switch casing. Check wiring for signs of damage.

Every 6 months: Check each switch function by opening and closing each guard individually in turn and ensuring that the Green LED on the switch and the LED's on the Safety Modules are illuminated when the switch is closed and are extinguished when the switch is open. Check that the machine stops and cannot be re-started when each switch is open.

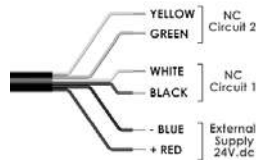
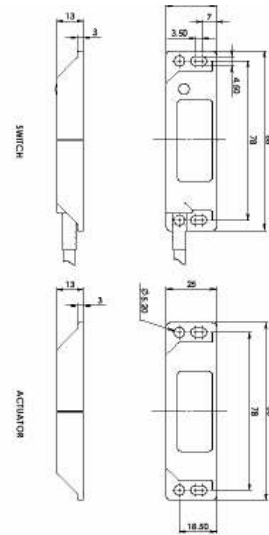
Never repair any switch, actuator or integral cables. Replace any switch which displays signs of mechanical damage to casing or cables.

Non Contact Coded Safety Switches

SP/SM

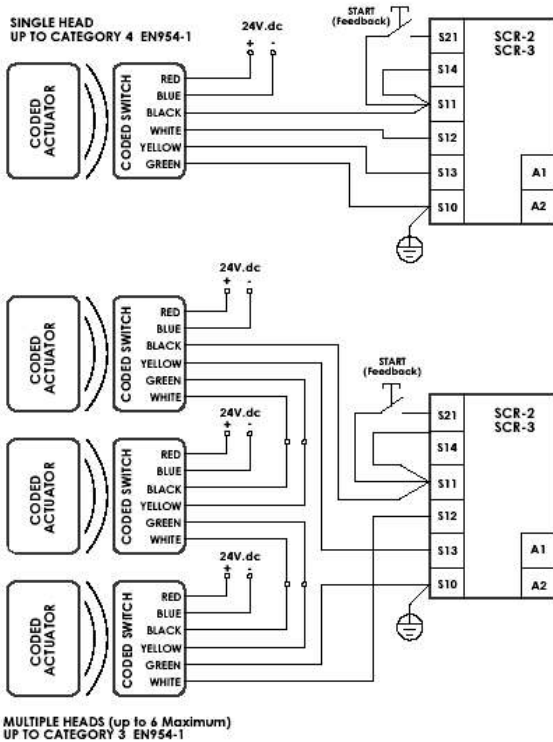


LP



Wiring Examples:

PDF-M IEC 947-5-3



Standards

EN1088 IEC 947-5-3 EN 60204-1
EN 954-1 UL508

Safety Channel 1	NC	
Safety Channel 2	NC	24V.dc 0.2 A Max. Rating
Safety Channel 3	NO	
Power supply (regulated)	24V.dc +/-15%	Max. Consumption 50mA
Contact release time	<2ms	
Initial contact resistance	<500 milliohm	
Minimum switched current	10V. dc 10mA	
Insulation Resistance	100 Mohms	
Dielectric withstand	250V.ac	
Recommended setting gap	5mm	
Switching Distance:	Sao 10mm Close	
(Target to target)	Sar 22mm 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	Red Polyester or Stainless Steel 316	
Temperature Range	-25 / 80C. (105C. Stainless Steel)	
Enclosure Protection	IP67	
Shock Resistance	IEC 68-2-27 11ms 30g	
Vibration Resistance	IEC 68-2-6 10-55 Hz. 1mm	
Mechanical Life Expectancy	10,000,000 switchings	
Electrical Life Expectancy	1,000,000 switchings	
De-rating	Safety Factor 2	
Tested to	2,000,000 cycles at 24V. 0.2A.	
Cable Type	PVC 6 core 6mm O.D. for 2NC	
	8 core 6mm O.D. for 2NC 1NO	
Mounting Bolts	2 x M4 recommended	
	Tightening torque 0.8Nm	
Mounting Position	Any	

Sales Number		Cable	Circuits
111001	SPC	2M	2NC
111002	5M	2NC	
111003	10M	2NC	
111004	SPC	QD-M12	2NC
111005	SPC	2M	2NC 1NO
111006	SPC	5M	2NC 1NO
111007	SPC	10M	2NC 1NO
111008	SPC	QD-M12	2NC 1NO

Sales Number		Cable	Circuits
139001	SMC	2M	2NC
139002	5M	2NC	
139003	10M	2NC	
139004	SMC	QD-M12	2NC
139005	SMC	2M	2NC 1NO
139006	SMC	5M	2NC 1NO
139007	SMC	10M	2NC 1NO
139008	SMC	QD-M12	2NC 1NO

Sales Number		Cable	Circuits
110001	LPC	2M	2NC
110002	LPC	5M	2NC
110003	LPC	10M	2NC
110004	LPC	QD-M12	2NC
110005	LPC	2M	2NC 1NO
110006	LPC	5M	2NC
110007	LPC	10M	2NC
110008	LPC	QD-M12	2NC 1NO

CE Declaration of Conformity.

These Products conform to the Essential Health and Safety Requirements of the European Machinery Directive (98/37/EC) and the Essential Protection Requirements of the EMC Directive (89/336/EEC).

Supplied under RoHS Directive 02/95/EC.

Nov 06