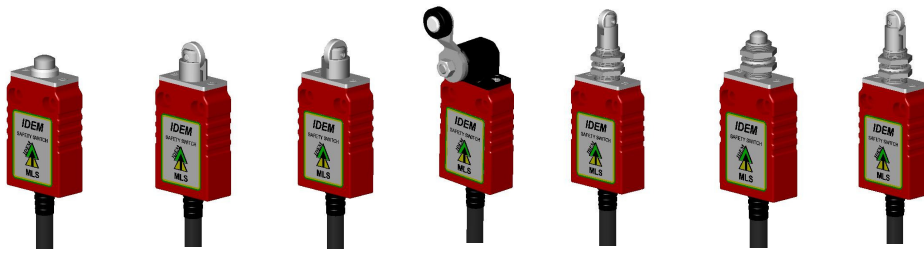




# LSPM Series - Safety Limit Switches Operating Instructions



### Application:

IDEM Limit switches are designed to be mounted for position sensing of moving applications e.g. guard doors, conveyors, machine beds, elevators etc. They are available with linear plungers, rotary levers or roller plungers and either slow or snap action contacts. All contact blocks are positively operated to satisfy IEC 60947-5-1.

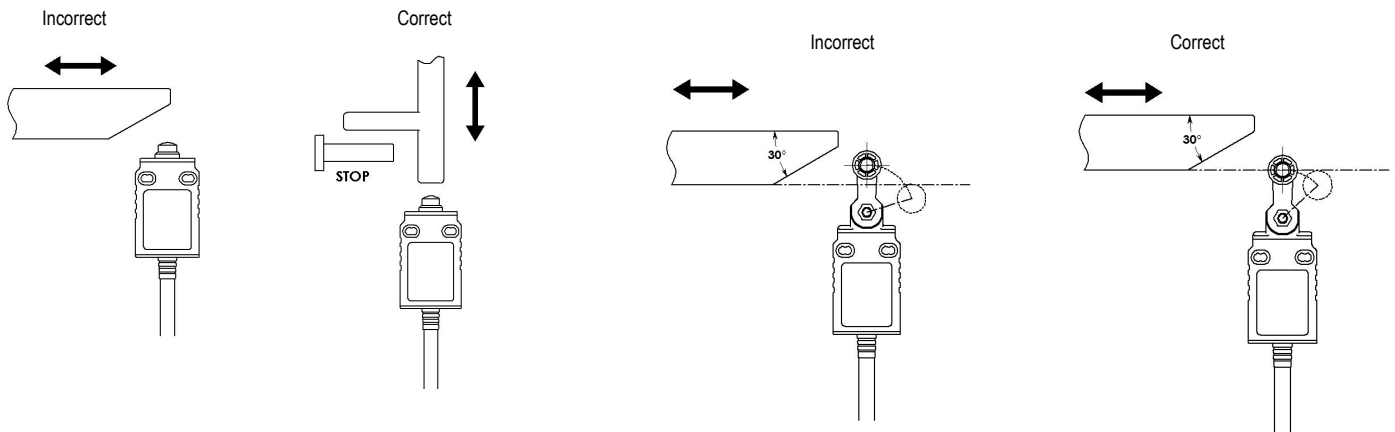
### Operation:

Operation of the switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers or levers. For safety applications it is important that the moving object does not pass completely over the switch actuators so as to cause the actuator to return to its original position.

### Installation guide: Correct Mounting of Limit Switches is critical to obtain optimum performance and ensure safety reliability.

Installation of all switches must be in accordance with a risk assessment for the individual application. Installation must only be carried out by competent personnel and in accordance with these instructions.

1. Never use the switch as a mechanical stop. Ensure that the actuator is protected from mechanical shock.
2. For switches with Linear actuators the actuating direction and force from the moving object should be applied in line with the axis of the plunger.
3. For switches with Rotary actuators or rollers the operating cam from the moving object should be designed such that the switch is never operated beyond its over travel position. Always use a 30 degree tapered actuating cam.



4. Always ensure that when running electrical conductors that they are routed correctly and no damage can occur to the cable insulation.
5. The free ends of the conductors are supplied solder dipped, when fitting to clamp terminals cut and discard the solder dip and clamp to bare conductors.
6. Always use M4 mounting bolts and ensure 2Nm tightening torque for robust fitting.
7. The safety functions and mechanics must be tested regularly. For applications where infrequent guard access is foreseeable, the system must have a manual function test to detect a possible accumulation of faults. At least once per month for PLe Cat3/4 or once per year for PLD Cat3 (ISO13849-1). Where possible it is recommended that the control system of the machine demands and monitors these tests, and stops or prevents the machine from starting if the test is not done. (See ISO14119).

### Maintenance:

Every month: Check switch actuator and body for signs of mechanical damage and wear. Replace any switch showing damage. Never attempt to repair any switch.

### Contact Blocks/Connections:



### Technical Specification:

Conforming to standards	ISO14119 IEC60947-5-1 UL60947-5-1 ISO13849-1
Positive Opening Operation	NC Contacts
Actuation Force/Torque for Positive Opening	12N. linear types 1.0Nm. rotary types
Utilization Category	AC15 A300 240V. 3A.
Min Current	5V, 5mA, DC
Thermal Current (Ith)	10A
Rated Insulation Voltage	300VAC
Rated Impulse Withstand Volt	2500VAC
Contact Resistance	25mΩ max.(initial)
Max. Switching Speed	250mm/s

Case Material	UL approved glass-filled plastic
Roller Material	Various Polymers / Steel
Enclosure Protection	IP67
Operating Temperature	Min. -25°C Max 80°C
Mechanical Life Expectancy	2,500,000 Cycles
Electrical Life Expectancy at full load	100,000 Cycle min.
Vibration	IEC 68-2-6, 10-55Hz 0.35mm
Cable outer diameter	8mm
Conductor size	1.5 sq.mm
Fixing	2 x M4



**WARNING: DO NOT DEFEAT, TAMPER, OR BYPASS THE SAFETY FUNCTION. FAILURE TO DO SO CAN RESULT IN DEATH OR SERIOUS**

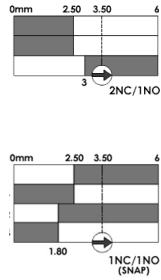
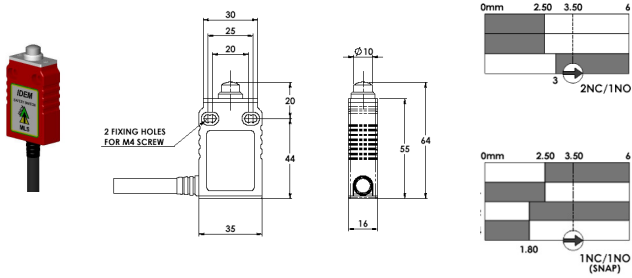
**INJURY.**

**AVERTISSEMENT: NE PAS DESACTIVER, MODIFIER, RETIRER, OU CONTOURNER**

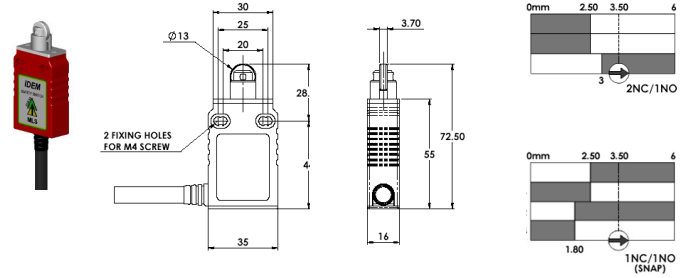
### Original Instructions.

To request this data sheet in other languages please contact [info@idemsafety.com](mailto:info@idemsafety.com)  
 Um dieses Datenblatt in Deutscher Sprache wenden Sie sich bitte anfordern [info@idemsafety.com](mailto:info@idemsafety.com)  
 Pour obtenir cette fiche en Français, veuillez contacter [info@idemsafety.com](mailto:info@idemsafety.com)  
 Para solicitar esta hoja de datos en Español, por favor contacto con [info@idemsafety.com](mailto:info@idemsafety.com)

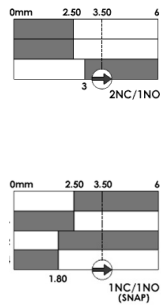
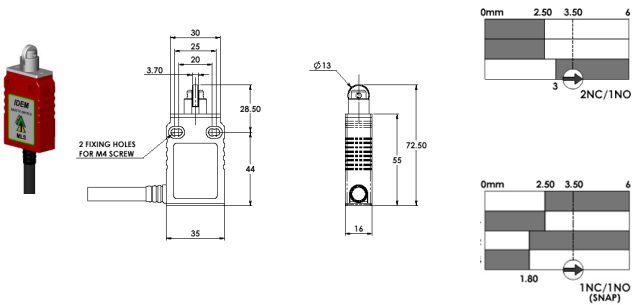
# LSPM Series - Safety Limit Switches



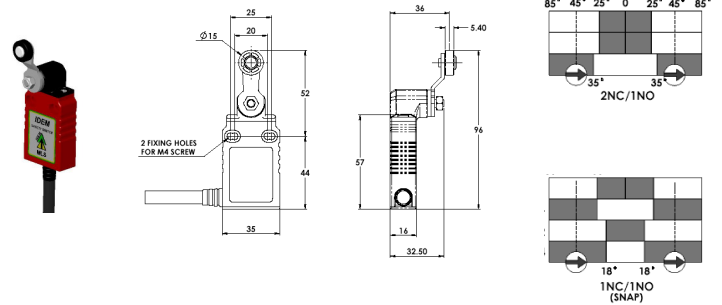
Pin Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170001	170003
1NC 1NO Snap	170002	170004



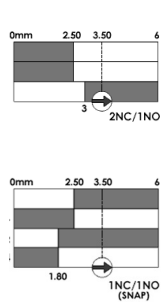
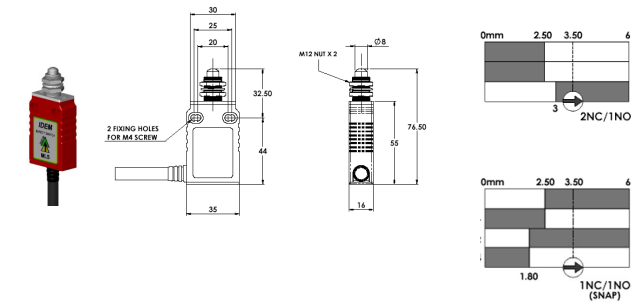
Roller Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170005	170007
1NC 1NO Snap	170006	170008



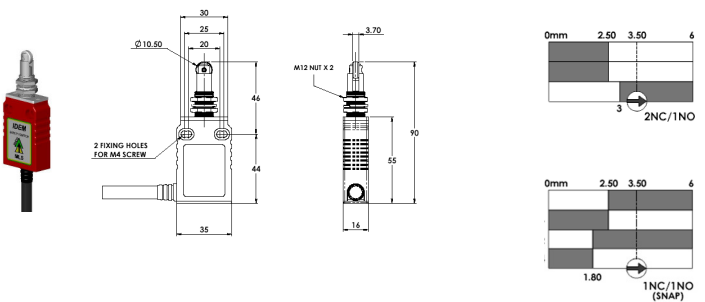
Cross Roller Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170009	170010
1NC 1NO Snap	170011	170012



Roller Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170013	170014
1NC 1NO Snap	170015	170016



Panel Mount Pin Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170017	170018
1NC 1NO Snap	170019	170020



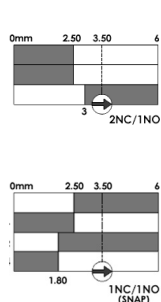
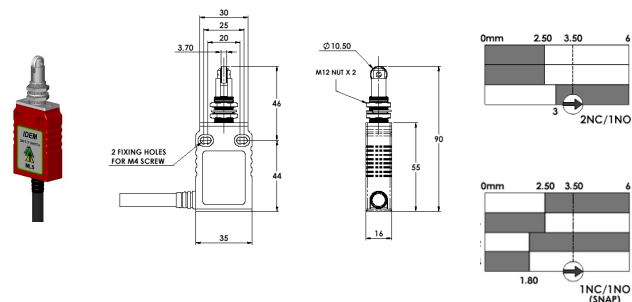
Panel Mount Roller Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170021	170022
1NC 1NO Snap	170023	170024

## Safety Classification and Reliability Data:

Mechanical Reliability B10d	2.5 x 10 <sup>6</sup> operations at 100mA load
ISO13849-1	Up to PLe depending upon system architecture
Safety Data – Annual Usage	8 cycles per hour / 24 hours per day / 365 days
	MTTFd 356 years

## Information with regard to UL Standards:

Type 1 Enclosures.  
Intended for same polarity use.  
Electrical Rating: A300 240V.ac 3A. (6,000 cycles)  
240V. 10A. carry only.



Panel Mount Cross Roller Plunger Sales Numbers		
Contacts	Cable Side Exit	Cable End Exit
2NC 1NO	170025	170026
1NC 1NO Snap	170027	170028