



LSPS-R Series - IEC Safety Limit Switches EN 50047

Operating Instructions



Application:

IDEM LSPS-R Limit Switches with Reset Button 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:

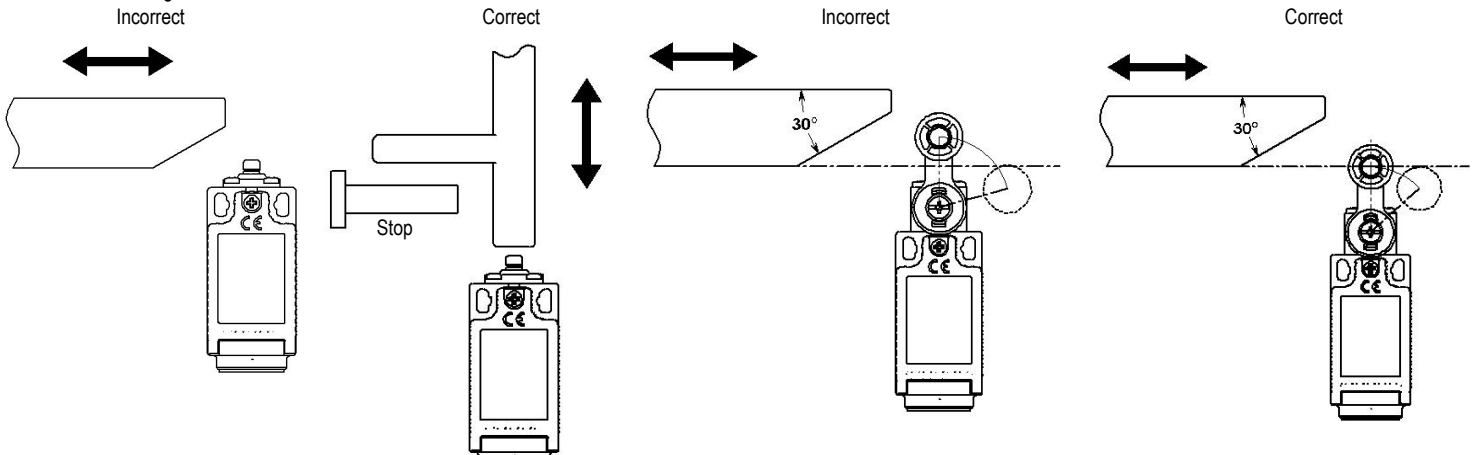
Operation of the switches is achieved by a sliding actuation of the moving object to cause deflection of the switch plungers or levers.

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. The heads of the switch can be rotated to obtain the best switch orientation by removing the 4 head screws and rotating the head through 90 degrees. Always ensure the 4 head screws are tightened to 1Nm to ensure switch robustness.



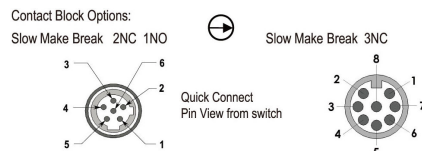
5. Always ensure that when fitting electrical conductors that they are routed correctly and do not interfere with the switch cover during fitting. Maximum conductor size is 1.5 sq.mm, contact terminal tightening torque is 1Nm.
6. Tightening torque for the lid screw is and cable glands is 1Nm to maintain IP rating.
7. Always use M4 mounting bolts and ensure 2Nm tightening torque for robust fitting.
8. The switches are reset by pulling out the blue pin after switch actuation.

Maintenance:

Every Week: Check the switch actuator and body for signs of mechanical damage and wear. Replace any switch showing damage.

Every 6 Months: Isolate power and remove cover. Check screw terminal tightness and check for signs of moisture ingress. Never attempt to repair any switch.

Contact Blocks /Connections:



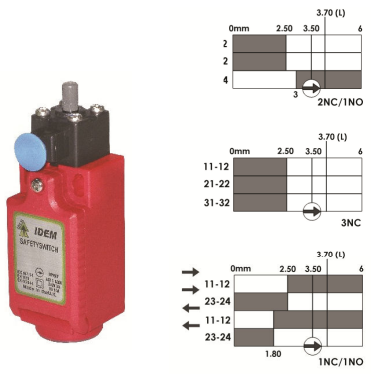
Quick Connect (QC) ½" UNF 6 Way Male	Switch Circuit	Quick Connect (QC) M12 8 Way Male (on Flying Lead 250mm) Pin view from switch
1 5	11 / 12	1 7
2 6	21 / 22 or 23 / 24	6 5
3 4	33 / 34 or 31 / 32	4 3

Technical Specification:

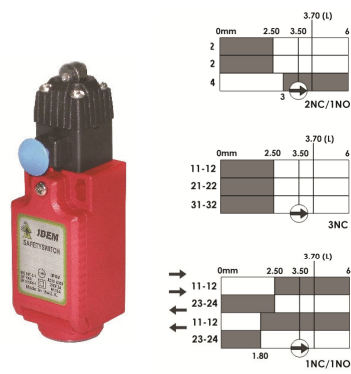
Conforming to standards	EN1088 IEC 947-5-1 UL508 EN50047
Positive Opening Operation	NC Contacts
Utilization Category	AC15 A300 240V, 3A.
Actuator Travel for Positive Opening	See contact operation diagram
Actuation Force to achieve Positive Opening	12N. linear types 1.0Nm. rotary types
Min Current	5V, 5mA, DC
Thermal Current (Ith)	10A
Rated Insulation Voltage	300VAC
Rated Impulse Withstand Volt	2500VAC
Insulation Resistance	100MΩmin.(DC500V)
Contact Resistance	25mΩ max.(initial)
Max. Switching Speed	250mm/s

Max. Switching Frequency	6,000 operation per hour
Case Material	UL approved glass-filled 5VA
Roller Material	Various Polymers
Enclosure Protection	IP67
Operating Temperature	Min. -25°C Max 80°C
Pollution Degree	3
Mechanical Life Expectancy	5 x 10 ⁶ Cycle min.
Electrical Life Expectancy at full load	100,000 Cycle min.
Vibration	IEC 68-2-6, 10-55Hz 0.35mm
Conductors	1.5 sq.mm max.
Conduit Entry	M20 or ½" NPT or QD M12
Fixing	2 x M4

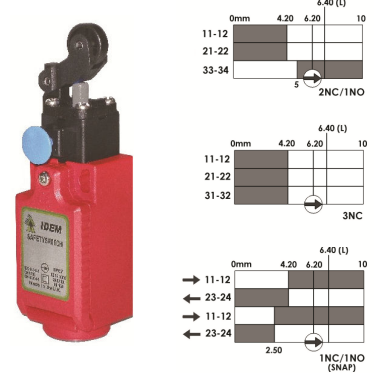
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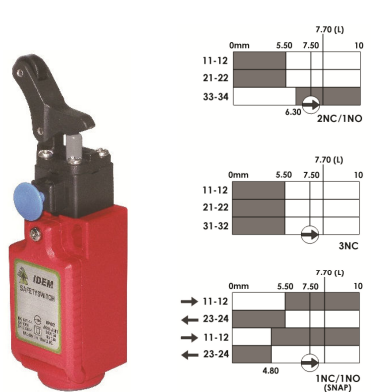
Sales Numbers Pin Plunger with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173001	173002	173003
3NC	173004	173005	173006
1NC 1NO Snap	173007	173008	173009



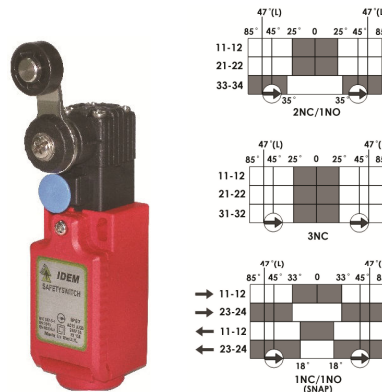
Sales Numbers Roller Plunger with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173010	173011	173012
3NC	173013	173014	173015
1NC 1NO Snap	173016	173017	173018



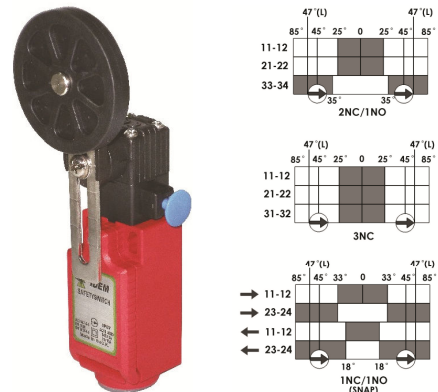
Sales Numbers Hinge Lever with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173019	173020	173021
3NC	173022	173023	173024
1NC 1NO Snap	173025	173026	173027



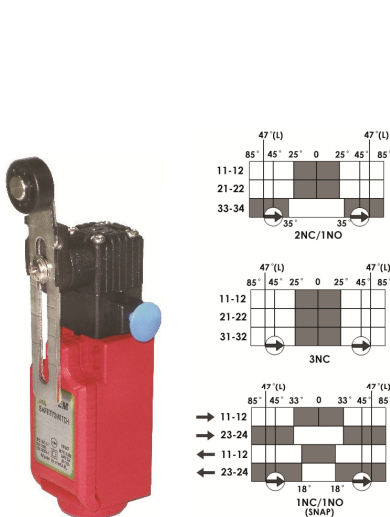
Sales Numbers Long Hinge Lever with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173028	173029	173030
3NC	173031	173032	173033
1NC 1NO Snap	173034	173035	173036



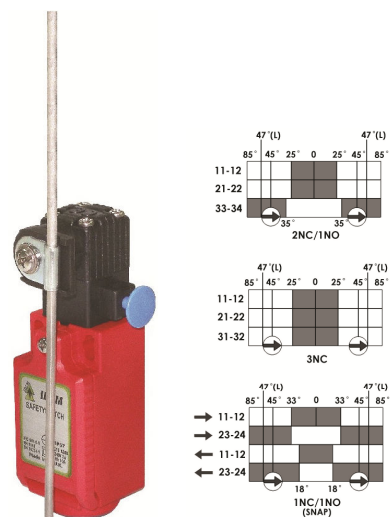
Sales Numbers Roller Lever with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173037	173038	173039
3NC	173040	173041	173042
1NC 1NO Snap	173043	173044	173045



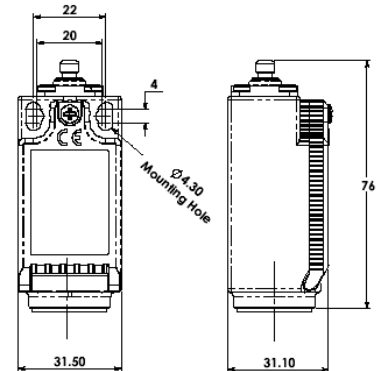
Sales Numbers Large Roller Lever with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173046	173047	173048
3NC	173049	173050	173051
1NC 1NO Snap	173052	173053	173054



Sales Numbers Adjustable Roller Lever with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173055	173056	173057
3NC	173058	173059	173060
1NC 1NO Snap	173061	173062	173063



Sales Numbers Lever Arm with Reset			
Contacts	M20	½"NPT	QC12
2NC 1NO	173064	173065	173066
3NC	173067	173068	173069
1NC 1NO Snap	173070	173071	173072



Outline dimensions - Body housing