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Limit switch with metal housing

The D4B series of limit switches in a rugged metal housing is suitable for both safety and non-safety applications due to its direct opening mechanism and TÜV approval. Furthermore with the increased temperature range and enhanced mechanical switching lifetime, the D4B is first choice for all applications from standard to demanding environments and for highest flexibility in mounting and connectivity preferences.

- Direct opening mechanism and approval by notified body
- Rugged metal housing and extended mechanical switching lifetime (snap action models)
- Terminal block for direct wiring

Ordering information

Actuator type		Connection method	Order code[*1]		
			1NC/1NO (snap-action)	1NC/1NO (slow-action)	2NC (slow-action)
	Roller lever[*2]	Terminal block with M20 conduit[*3]	D4B-4111N	D4B-4511N	D4B-4A11N
	Adjustable roller lever		D4B-4116N	D4B-4516N	D4B-4A16N
	Adjustable rod lever		D4B-4117N	D4B-4517N	D4B-4A17N
	Plain		D4B-4170N	D4B-4570N	D4B-4A70N
	Roller		D4B-4171N	D4B-4571N	D4B-4A71N
	Coil spring		D4B-4181N[*4]	–	–
	Plastic rod		D4B-4187N[*4]	–	–

[*1] The NC contacts provide the approved direct opening mechanism.

[*2] For models with stainless steel rollers and temperature resistance of -40°C refer to WL-_-TC.
[*3] Models with G1/2 or 1/2"14NPT conduit are available. For ordering refer to complete datasheet. For PG13.5 conduit models for non-safety applications contact your OMRON representative.
[*4] No direct opening mechanism.

Specifications

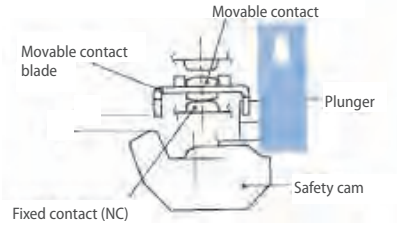
Item		Snap-action	Slow-action
Durability[*1]	Mechanical	30,000,000 operations min.	10,000,000 operations min.
	Electrical	500,000 operations min. (at a 250 VAC, 10 A resistive load)	
Operating speed		1 mm/s to 0.5 m/s	
Operating frequency	Mechanical	120 operations/min	
	Electrical	30 operations/min	
Rated frequency		50/60 Hz	
Contact resistance		25 mΩ max. (initial value)	
Pollution degree (operating environment)		3 (EN60947-5-1)	
Conditional short-circuit current		100 A (EN60947-5-1)	
Conventional enclosed thermal current (I_{th})		20 A (EN60947-5-1)	
Protection against electric shock		Class I (with ground terminal)	
Ambient temperature	Operating	–40 to 80°C (with no icing)[*2]	
Degree of protection		IP67 (EN60947-5-1)	

[*1] The values are acquired for an ambient temperature of 5 to 35°C and an ambient humidity of 40% to 70%.
[*2] –25 to 80°C for the flexible-rod actuator.

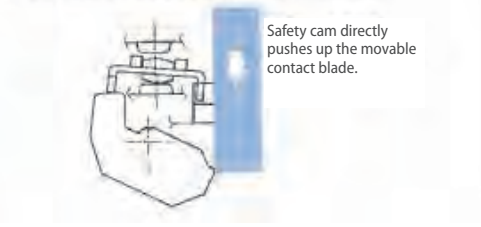
1NO/1NC Contact (Snap-action)

If metal deposition between mating contacts occurs on the NC contact side, they can be pulled apart by the shearing force and tensile force generated when part B of the safety cam or plunger engages part A of the movable contact blade. When the safety cam or plunger is moved in the direction of the arrow, the Limit Switch releases.

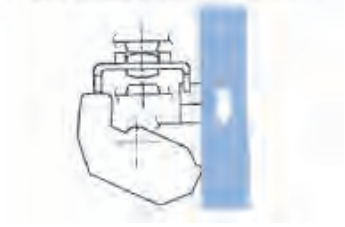
1. When metal deposition occurs.



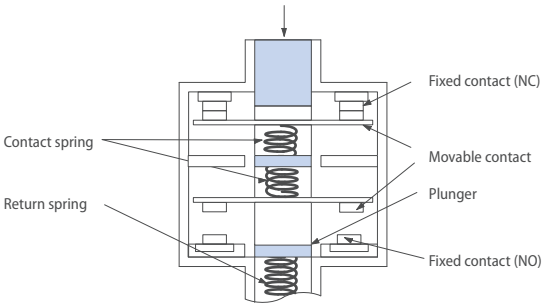
2. When contacts are being pulled apart.



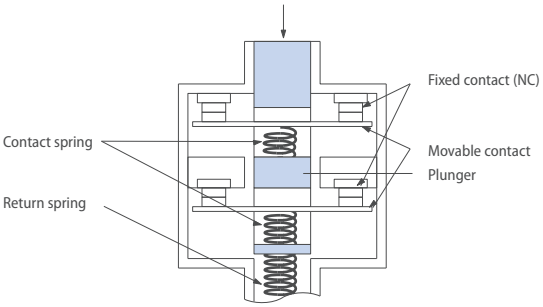
3. When contacts are completely pulled apart.



1NC/1NO Contact (Slow-action)



2NC Contact (Slow-action)



NC contacts conform to EN60947-5-1 Direct Opening

When metal deposition occurs, the contacts are separated from each other by the plunger being pushed in.

⊖ is marked on the product to indicate approval of direct opening.

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Product	Code	Reference	Product link
Security Product, Metallic DPDB-2NC M20 Roldana	103702	D4B-4A11N	Buy on EAN
Limit switch, adjustable roller lever, SPDB NO/NC, snap action, 10 A	134604	D4B-4116N	Buy on EAN
Security Product, Metallic DPDB-2NC Plunger M20 pulley wheel	134611	D4B-4A71N	Buy on EAN
Security Product, Metallic SPDT-NO / NC adjustable roller lever Slow Rupture M20	158135	D4B-4516N	Buy on EAN
Limit switch, roller plunger, SPDB NO/NC, snap action, 10 A	134606	D4B-4171N	Buy on EAN
Security Product, Metallic SPDT-NO / NC adjustable rod Slow Rupture PG13.5	134612	D4B-4517N	Buy on EAN
Security Product, Metallic DPDB-adjustable M20 2NC Roldana	134610	D4B-4A16N	Buy on EAN
Security Product, Metallic DPDB-adjustable rod M20 2NC	134613	D4B-4A17N	Buy on EAN
Limit switch, spring rod lever, SPDB NO/NC, snap action, 10 A	155546	D4B-4181N	Buy on EAN
Limit switch, roller lever 17.5mm dia, SPDB NO/NC, snap action, 10 A	155545	D4B-4111N	Buy on EAN
Limit switch, plain spring rod lever, SPDB NO/NC, snap action, 10 A	145957	D4B-4187N	Buy on EAN
Limit switch, plunger, SPDB NO/NC, snap action, 10 A	134605	D4B-4170N	Buy on EAN
Security Product, Metallic SPDT-NO / NC Slow Rupture standard Roldana PG13.5	134607	D4B-4511N	Buy on EAN
Security Product, Metal 2NC Plunger SPDT-plane M20	153605	D4B-4A70N	Buy on EAN

Security Product, Metallic SPDT-NO / NC Plunger Slow Rupture M20 pulley wheel	134609	D4B-4571N	Buy on EAN
Limit switch, adjustable rod lever, SPDB NO/NC, snap action, 10 A	148096	D4B-4117N	Buy on EAN