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V9N

Snap-action Microswitches

Miniature



V9N

Characteristics
- Robust metal housing
- IEC IP67 sealed mechanism
- High temperature unwired versions
- Pre-wired options - vertical and horizontal leads

Rating Up to 250 VAC, 10 A

Dimensions (mm) 42.3 × 28.1 × 16
42.3 × 32 × 16 (lever variant)

Actuator Plunger, plain lever, 2 roller levers, reverse action plain lever, reverse action roller lever

Approvals UL and CSA

Preferred Range

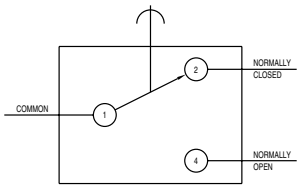
Ordering Reference	Actuating Force (N)	(ozf)	Sealing	Operating pos. (mm)	(in)	Terminal	Circuit	Actuator	Contacts	Electrical rating
V9N	5,5	19,80	IP67	21,3	0,840	M3 screw	CO	Plunger	Silver	Up to 250 VAC, 10 A
V9NLR	6,0	21,60	IP67	27,5	1,080	M3 screw	CO	Roller lever - short	Silver	Up to 250 VAC, 10 A
V9NLR1	4,5	16,20	IP67	34,5	1,360	M3 screw	CO	Roller lever - long	Silver	Up to 250 VAC, 10 A
V9NL	3,0	10,80	IP67	24,7	0,970	M3 screw	CO	Plain lever	Silver	Up to 250 VAC, 10 A
V9NML	4,5	16,20	IP67	23,6	0,930	M3 screw	CO	Reverse action lever - long	Silver	Up to 250 VAC, 10 A
V9NV	5,5	19,80	IP67	21,3	0,840	Pre-wired	CO	Plain plunger	Silver	Up to 250 VAC, 10 A
V9NLRV	6,0	21,60	IP67	27,5	1,080	Pre-wired	CO	Roller lever - short	Silver	Up to 250 VAC, 10 A
V9NLR1V	4,5	16,20	IP67	34,5	1,360	Pre-wired	CO	Roller lever - long	Silver	Up to 250 VAC, 10 A
V9NLV	3,0	10,80	IP67	24,7	0,970	Pre-wired	CO	Plain lever	Silver	Up to 250 VAC, 10 A
V9NMLV	4,5	16,20	IP67	23,6	0,930	Pre-wired	CO	Reverse action lever - long	Silver	Up to 250 VAC, 10 A
V9NMRV	9,5	34,20	IP67	32,9	1,295	Pre-wired	CO	Reverse action roller lever - short	Silver	Up to 250 VAC, 10 A
V9NMLRV	5,0	18,00	IP67	34,0	1,340	Pre-wired	CO	Reverse action roller lever - long	Silver	Up to 250 VAC, 10 A

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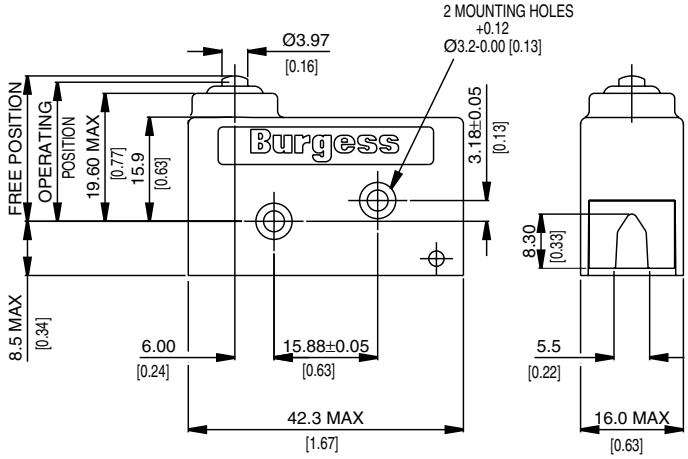
Specifications

Housing	Zinc diecasting
Plunger	Acetal
Mechanism	Snap-action, single pole
Functions	Change-over
Cowl	Silicon rubber
Contacts	Silver
Terminals °C	M3 screws with captive washers
Temperature range	–40°C to +125°C, switch only -10°C to +85°C pre-wired
Mechanical life	10^6 cycles minimum, impact-free actuation
Protection	IP67 (enclosure)
Mounting	Side mounting
Actuators	Plain levers - stainless steel, roller levers - stainless steel, nylon roller

Circuit diagram



Dimensions

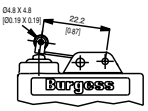
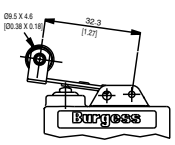
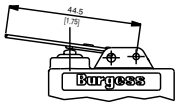
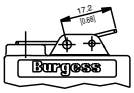
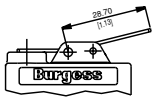
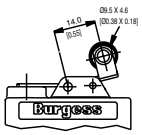
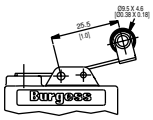


Recommended maximum electrical ratings

Voltage (max)	Load (A)	Approval
250 VAC	10 (0.75 pf)	UL 1054/CSA 22.2 No. 55 - 6,000 operations (85° C)
0 - 15 VDC	10	General rating - 50,000 operations (85° C)
15 - 30 VDC	10	General rating - 50,000 operations (85° C)

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Operating Characteristics

Actuator	Reference	Actuating Force Maximum (N)	(ozf)	Release Force Minimum (N)	(ozf)	Free Position Maximum (mm)	(in)	Operating Position (mm)	(in)	Movement Differential (mm)	(in)	Over travel Maximum (mm)	(in)
Plunger 	V9N	5,5	19,8	1,0	3,6	22,6	0,89	21,3 ± 0.3	0,84 ± 0.012	0,35	0,014	*	
Roller lever - short 	V9NLR	6,0	21,6	1,3	4,7	31,0	1,22	27,5 ± 0.5	1,08 ± 0.02	0,35	0,014	*	
Roller lever - long 	V9NLR1	4,5	16,2	0,8	2,9	39,0	1,54	34,5 ± 0.7	1,36 ± 0.028	0,60	0,024	*	
Plain lever 	V9NL	3,0	10,8	0,6	2,1	31,0	1,22	24,7 ± 01.0	0,97 ± 0.039	0,70	0,028	*	
Reverse action lever - short 	V9NM	7,5	27,0	1,5	5,4	26,0	1,02	22,4 ± 0.5	0,88 ± 0.02	0,50	0,020	3,50	0,137
Reverse action lever - long 	V9NML	4,5	16,2	1,0	3,6	29,0	1,14	23,6 ± 01.0	0,93 ± 0.039	1,20	0,047	6,00	0,236
Reverse action roller lever - short 	V9NMR	9,5	34,2	1,5	5,4	36,0	1,42	32,9 ± 0.5	1,295 ± 0.02	0,45	0,018	2,00	0,079
Reverse action roller lever - long 	V9NMLR	5,0	18,0	1,0	3,6	39,5	1,56	34,0 ± 01.0	1,34 ± 0.039	1,00	0,039	5,50	0,216

Operating characteristics are specified from lower mounting hole

* Plunger can be depressed flush with housing. The housing should not be used as an end stop.

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Ordering Reference

Typ	V9N	
Actuators	No digit	Plain plunger
	LR	Roller lever - short
	LR1	Roller lever - long
	L	Plain lever
	M	Reverse action lever - short
	ML	Reverse action lever - long
	MR	Reverse action roller lever - short
	MLR	Reverse action roller lever - long
Wiring	No digit	M3 screws with captive washers
	V	Pre-wired with vertical 1 m lead
	H	Pre-wired with horizontal 1 m lead
Approvals	No digit	UL and cUL

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