

# Snap-action Microswitches – Subminiature V4N

## V4N

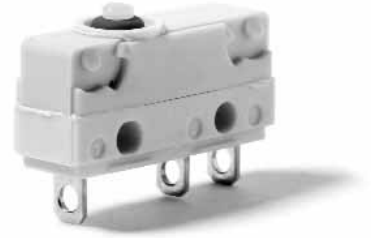
- Characteristics
- Peg mounting option
  - Solder terminals
  - 2.8 mm faston (quick connect) terminals
  - PCB terminals
  - Sealed (IP 67) / unsealed (IP 40)
  - Pre-wired option
  - Snap-on terminal covers

Dimensions (mm)

V4N	20 x 10 x 6
V4NS	20 x 17.5 x 6.4

Actuator Plunger, plain lever, roller lever

Approvals UL, CSA and ENEC



## Preferred Product Range

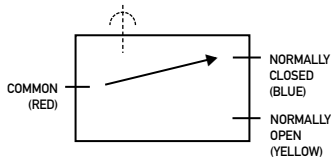
Ordering Reference	Actuating Force (N)	Actuating Force (oz)	Sealing	Operating position (mm)	Operating position (in)	Terminal	Circuit	Actuator	Contacts	Electrical rating
V4NT7UL	1.40	5.0	IP40	8.40	0.33	Solder	CO	Plain plunger	Silver	250 VAC, 5 A
V4NST7UL	2.50	9.0	IP67	8.40	0.33	Solder	CO	Plain plunger	Silver	250 VAC, 5 A
V4NSUL	2.50	9.0	IP67	8.40	0.33	Pre-wired	CO	Plain plunger	Silver	250 VAC, 5 A
V4NT7Y1UL	0.50	1.8	IP40	10.7	0.42	Solder	CO	Straight lever	Silver	250 VAC, 5 A
V4NST7Y1UL	0.90	3.2	IP67	10.6	0.42	Solder	CO	Straight lever	Silver	250 VAC, 5 A
V4NSY1UL	0.90	3.2	IP67	10.6	0.42	Pre-wired	CO	Straight lever	Silver	250 VAC, 5 A
V4NT7YR1UL	0.50	1.8	IP40	15.7	0.62	Solder	CO	Roller lever	Silver	250 VAC, 5 A
V4NST7YR1UL	0.90	3.2	IP67	15.6	0.62	Solder	CO	Roller lever	Silver	250 VAC, 5 A
V4NSYR1UL	0.90	3.2	IP67	15.6	0.62	Pre-wired	CO	Roller lever	Silver	250 VAC, 5 A

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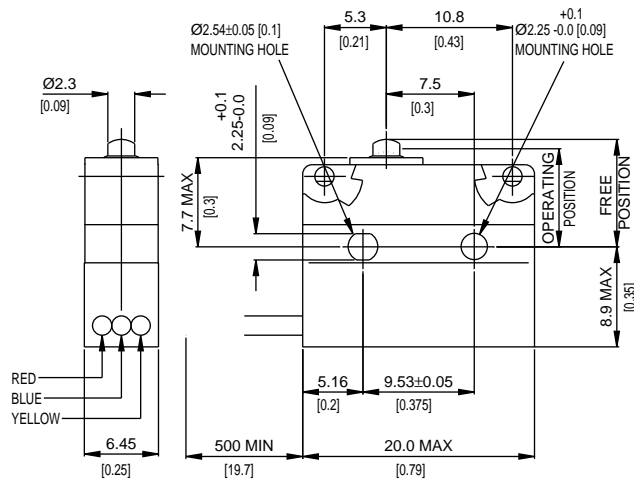
## Specifications

Housing	Flame-retardant glass-fiber reinforced nylon
Plunger	Polyacetal (POM)
Mechanism	Snap-action coil spring mechanism with stainless steel spring
Functions	Change-over, normally-closed or normally-open
Contacts	Silver
Terminals	Gold flashed
Temperature range °C	-40°C to +85°C
Mechanical life	5 x 10 <sup>6</sup> cycles minimum (impact free actuation)
Protection	IP40 (V4N - enclosure), IP67 (V4NS - enclosure)
Mounting	Side mounting
Actuators	Plain lever, Roller lever
Accessories	Insulating sheet - N04619, Clip-on terminal cover - TC102, Long overtravel actuator - QA4

Circuit diagram



Dimensions mm [in]

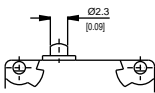
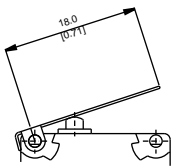
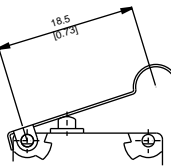
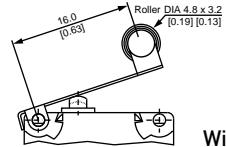


## Recommended Maximum Electrical Ratings

	Voltage (max)	Load (A)	Inductive load (A)	Approval
V4NT7/V4NST7-UL	250 VAC	5 (0.75 pf)		UL 1054/CSA 22.2 No. 55 - 6,000 operations - 65°C EN61058-1, T85, 10,000 operations
	250 VAC	5	2	
	0 - 15 VDC	5	3	General rating - 50,000 operations (85°C)
	15 - 30 VDC	5	3	General rating - 50,000 operations (85°C)
V4NS-UL	250 VAC	3 (0.75 pf)		UL 1054/CSA 22.2 No. 55 - 6,000 operations - 65°C EN61058-1, T85, 10,000 operations
	250 VAC	5	2	
	0 - 15 VDC	3	3	General rating - 50,000 operations (85°C)
	15 - 30 VDC	3	3	General rating - 50,000 operations (85°C)

# Snap-action Microswitches – Subminiature V4N

## Operating Characteristics

Actuator	Reference	Actuating Force Maximum		Release Force Minimum		Free Position Maximum		Operating Position		Movement Differential Maximum	
		(N)	(oz)	(N)	(oz)	(mm)	(in)	(mm)	(in)	(mm)	(in)
Plunger mm [in] 	V4NT7UL	1.4	5.00	0.28	1.00	9.2	0.36	8.4 ± 0.3	0.33 ± 0.012	0.1	0.004
	V4NST7UL	2.5	9.00	0.30	1.00	9.2	0.36	8.4 ± 0.3	0.33 ± 0.012	0.1	0.004
	V4NSUL	2.5	9.00	0.3	1.00	9.2	0.36	8.4 ± 0.3	0.33 ± 0.012	0.1	0.004
Y1 lever mm [in]  Width of lever 4.0 mm/0.16 in	V4NT7Y1UL	0.5	1.80	0.07	0.25	13.2	0.52	10.7 ± 1.0	0.42 ± 0.04	0.4	0.016
	V4NST7Y1UL	0.9	3.20	0.07	0.25	13.2	0.52	10.6 ± 1.2	0.42 ± 0.05	0.4	0.016
	V4NSY1UL	0.9	3.20	0.07	0.25	13.2	0.52	10.6 ± 1.2	0.42 ± 0.05	0.4	0.016
YC1 lever mm [in]  Width of lever 4.0 mm/0.16 in	V4NT7YC1UL	0.5	1.80	0.07	0.25	17.8	0.70	15.7 ± 1.0	0.62 ± 0.04	0.4	0.016
	V4NST7YC1UL	0.9	3.20	0.07	0.25	17.8	0.70	15.6 ± 1.2	0.61 ± 0.05	0.4	0.016
	V4NSYC1UL	0.9	3.20	0.07	0.25	17.8	0.70	15.6 ± 1.2	0.61 ± 0.05	0.4	0.016
YR1 lever mm [in]  Width of lever 4.0 mm/0.16 in	V4NT7YR1	0.5	1.80	0.07	0.25	17.8	0.70	15.7 ± 1.0	0.62 ± 0.04	0.4	0.016
	V4N2T7YR1	0.2	0.70	0.02	0.07	17.8	0.70	15.7 ± 1.0	0.62 ± 0.04	0.4	0.016

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

## Ordering Reference – How to Build a Part Number

Type	V4N	
Type of sealing	No digit	Unsealed
	S	Sealed IP67
Terminals	No digit	Pre-wired, 0.5m PVC cable (V4NS only)
	T7	Solder
	T8	PCB 0.8 x 0.8 mm
	T9	0.110 in. quick connect (2.8 x 0.5 mm)
Circuit	No digit	Change-over
	C2	Normally closed
	C4	Normally open
Actuators	No digit	Plunger
	Y1	Plain lever
	YR1	Roller lever
	YC1	Cam follower
Approvals	UL	UL approval

# Snap-action Microswitches – Panel Mounted Actuators QA4/PBA4

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## QA4/PBA4

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- Characteristics
- Long overtravel stainless steel plunger
  - Molded frame (QA4)
  - 2 locknuts
  - M6 fine thread sleeves
  - Can be fitted to all standard travel V4NC switches
  - Simple clip-on attachment
  - Choice of either round or square push buttons and bezels
  - Single hole mounting (Ø 6.35 mm) or via switch mounting holes
  - Panel sealing if required
  - Long overtravel actuator version with min. 5 mm overtravel
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## Preferred Product Range

Ordering Reference	Basic switch	Button	Bezel	Sealing kit	Actuator kit
V4NCT7QA4	V4NCT7	PBRR	BZR	PBSLK	QA4

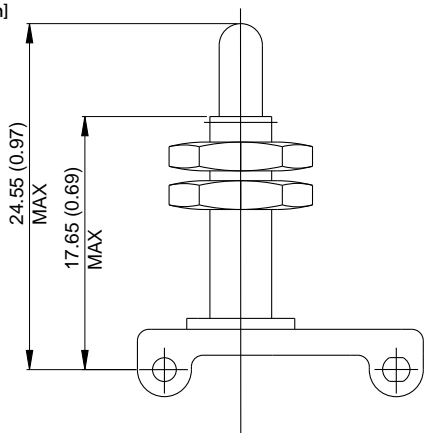
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# Snap-action Microswitches – Panel Mounted Actuators QA4/PBA4

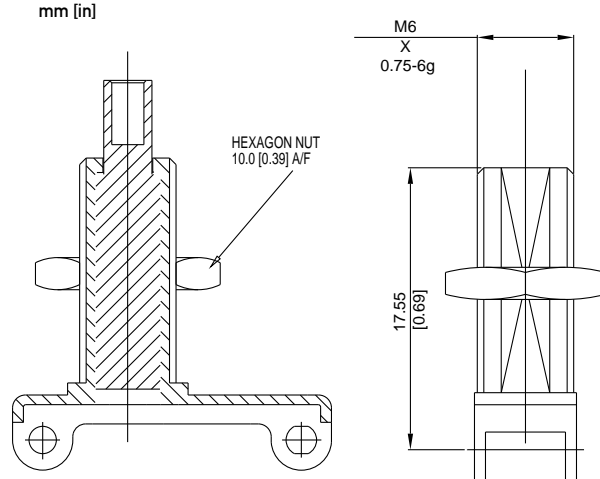
## Specifications

Clip-on frame	Glass fiber reinforced polyamide (PA 6.6)
Bezel	ABS polymer - black
Cowl	Synthetic rubber
"O"-Ring	Nitrile
Locknut	Brass nickel plate
Button	ABS polymer
Basic switches	V4NC (see pages 41 to 44)
Temperature °C	-10°C to +85°C
Mechanical Life	5 x 10 <sup>6</sup> cycles minimum (Mechanism 2 x 10 <sup>6</sup> cycles minimum) (Impact free actuation)
Mounting mm [in]	Single hole Ø 6.4 (0.25) suitable for panels up to 8.0 (0.3) thick
Torque max. Nm	0.4 to be applied to locknut

Dimensions  
mm [in]



PBA4  
mm [in]

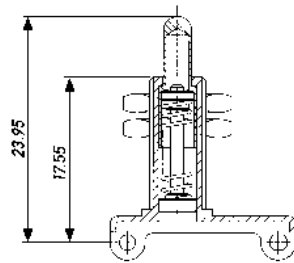
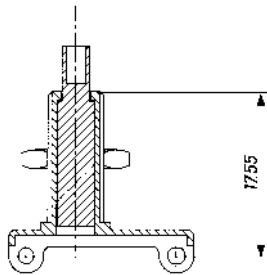


# Snap-action Microswitches – Panel Mounted Actuators QA4/PBA4

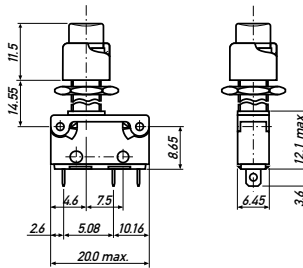
## Ordering Reference – How to Build a Part Number

Actuator kit PBA4

QA4



Basic switch V4NC... See pages A28–A31

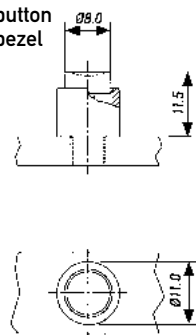


Button Round button  
PBRR  
PBRY  
PBRG  
PBRBU  
PBRW  
PBRB

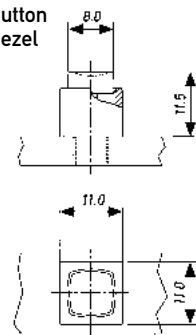
Square button  
PBSR  
PBSY  
PBSG  
PBSBU  
PBSW  
PBSBU

Button color  
Red  
Yellow  
Green  
Blue  
White  
Black

Round button  
Round bezel



Square button  
Square bezel



Bezel BZR round

BZS square

Sealing kit PBSLK

Sealing kit ("O"-ring and diaphragm) suitable for square and round versions

