D3V



Miniature Snap Action Switch

- Standard switch operating temperature of 125°C (200° C version available)
- Self-cleaning contacts
- 0.1A, 6A., 11A., 16A., or 21A. models
- 0.1A features gold cross-bar contacts
- Two operating positions for external levers
- Internal or external-fitted levers
- Conforms to EN61058-1 ENEC(10), UL1054, UL858
- ROHS Compliant

Part	Rated Resistive Load - Switch	Actuator types	Contact form	Operating Force	Seal type	Termination Style	Service Life - Electrical (Min. @ Rated Loads)
D3V-11G-1A4-K	11A @ 125/250VAC	Pin plunger	SPDT	125g	Unsealed	Solder	200,000 ops
D3V-11G-1A5-K	11A @ 125/250VAC	Pin plunger	SPDT	200g	Unsealed	Solder	200,000 ops
D3V-11G-1C24-K	11A @ 125/250VAC	Pin plunger	SPDT	125g	Unsealed	188 Quick Connect	200,000 ops
D3V-11G-1C25-K	11A @ 125/250VAC	Pin plunger	SPDT	200g	Unsealed	187 Quick Connect	200,000 ops
D3V-11G-1C4	11A @ 125/250VAC	Pin plunger	SPDT	100g	Unsealed	250 Quick Connect	200,000 ops
D3V-11G-1C5-K	11A @ 125/250VAC	Pin plunger	SPDT	200g	Unsealed	250 Quick Connect	200,000 ops
D3V-11G2-1C24-K	11A @ 125/250VAC	Hinge lever	SPDT	60g	Unsealed	187 Quick Connect	200,000 ops
D3V-11G2-1C25-K	11A @ 125/250VAC	Hinge lever	SPDT	125g	Unsealed	187 Quick Connect	200,000 ops
D3V-11G2-1C5-K	11A @ 125/250VAC	Hinge lever	SPDT	125g	Unsealed	250 Quick Connect	200,000 ops
D3V-11G2-	11A @ 125/250VAC	Hinge lever	SPST-NO	125g	Unsealed	187 Quick Connect	200,000 ops

Miniature Basic Switch
D3V

Reliable Basic Switch with External Lever

- Available by 0.1 A, 6 A, 11 A, 16 A and 21 A models, all with self-cleaning contacts. 0.1 A utilizes gold alloy crossbar contacts for high reliability at low loads.
- Available with internally or externally fitted levers, and 2 fixing positions for external levers.
- Conforms to EN61058-1 UL1054.
- Right-angle plunger option available in some models.
- RoHS Compliant.



Ordering Information

■ Model Number Legend

D3V-□□□□-□□□-□-□
1 2 3 4 5 6 7 8 9

1. Ratings
- 21: 20 (4) A at 250 VAC
- 16: 16 (3) A at 250 VAC
- 11: 11 (3) A at 250 VAC
- 6: 6 (2) A at 250 VAC
- 01: 0.1 A at 125 VAC

2. Contact Gap
- None: 1 mm (F gap)
- G: 0.5 mm (G gap)

3. Actuator
- None: Pin plunger
- 1: Short hinge lever
- 2: Hinge lever
- 3: Long hinge lever
- 4: Simulated roller lever
- 5: Short hinge roller lever
- 6: Hinge roller lever

4. Hinge Position
- None: Internal/Far from plunger
- M: External/Far from plunger
- K: External/Near plunger

5. Contact Form
- 1: SPDT
- 2: SPST-NC
- 3: SPST-NO

6. Terminals
- A: Solder/quick-connect terminal (#187)
- C2: Quick-connect terminal (#187)
- C: Quick-connect terminal (#250) (optional without surge creepage tab flush around terminals.)

7. Maximum Operating Force
- 5: 1.96 N {200 gf}
- 4A: 1.23 N {125 gf}
- 4: 0.98 N {100 gf}
- 3: 0.49 N {50 gf}
- 2: 0.25 N {25 gf}

Note: These values are for the plunger models.

8. Mounting Hole Size
- None: 3.1 mm
- K: 2.9 mm

9. Special Code
- None: Standard
- H: High temperature (125°C)
- E: Special rating: 21 (8) A
- T: High temperature (200°C)

■ Available Combinations

Model		D3V-21	D3V-16			D3V-11					D3V-6				D3V-01	
Rated current		21 A	16 A			11 A					6 A				0.1 A	
OF		1.23 N {125 gf}	1.96 N {200 gf}		0.98 N {100 gf}	1.96 N {200 gf}		0.98 N {100 gf}		0.49 N {50 gf}	1.96 N {200 gf}	0.98 N {100 gf}		0.49 N {50 gf}	0.49 N {50 gf}	0.25 N {25 gf}
Heat resistance	Contact gap / Terminals	G 0.5 mm	F 1 mm	G 0.5 mm	F/G 1 mm or 0.5 mm	F 1 mm	G 0.5 mm	F 1 mm	G 0.5 mm	G 0.5 mm	F/G 1 mm or 0.5 mm	F 1 mm	G 0.5 mm	G 0.5 mm	F 1 mm	F 1 mm
Standard (85°C)	#187														●	●
	#250	●													❍	❍
Standard (105°C)	#187		●	❍	❍	●	❍	●	❍	❍	❍	●	❍	●		
	#250		●	❍	❍	●	❍	●	❍	❍	❍	●	❍	●		
High temperature (125°C)	#187		❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍		
	#250		❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍	❍		
High temperature (200°C)	#187										❍	❍	❍	❍	❍	❍
	#250										❍	❍	❍	❍	❍	❍

Note: 1. ●: Standard
❍: Semi-standard

2. Consult OMRON for specific models with standard approval.

■ List of Models

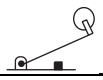
21 A (OF: 1.23 N {125 gf})

Actuator	Hinge position (far from plunger)	Contact form		
		SPDT	SPST-NC	SPST-NO
Plunger	---	D3V-21G-1□4A-Δ	D3V-21G-2□4A-Δ	D3V-21G-3□4A-Δ
Short hinge lever	Internal	D3V-21G1-1□4A-Δ	D3V-21G1-2□4A-Δ	D3V-21G1-3□4A-Δ
	External (M)	D3V-21G1M-1□4A-Δ	D3V-21G1M-2□4A-Δ	D3V-21G1M-3□4A-Δ
Hinge lever	Internal	D3V-21G2-1□4A-Δ	D3V-21G2-2□4A-Δ	D3V-21G2-3□4A-Δ
	External (M)	D3V-21G2M-1□4A-Δ	D3V-21G2M-2□4A-Δ	D3V-21G2M-3□4A-Δ
Long hinge lever	Internal	D3V-21G3-1□4A-Δ	D3V-21G3-2□4A-Δ	D3V-21G3-3□4A-Δ
	External (M)	D3V-21G3M-1□4A-Δ	D3V-21G3M-2□4A-Δ	D3V-21G3M-3□4A-Δ
Simulated roller lever	Internal	D3V-21G4-1□4A-Δ	D3V-21G4-2□4A-Δ	D3V-21G4-3□4A-Δ
	External (M)	D3V-21G4M-1□4A-Δ	D3V-21G4M-2□4A-Δ	D3V-21G4M-3□4A-Δ
Short hinge roller lever	Internal	D3V-21G5-1□4A-Δ	D3V-21G5-2□4A-Δ	D3V-21G5-3□4A-Δ
	External (M)	D3V-21G5M-1□4A-Δ	D3V-21G5M-2□4A-Δ	D3V-21G5M-3□4A-Δ
Hinge roller lever	Internal	D3V-21G6-1□4A-Δ	D3V-21G6-2□4A-Δ	D3V-21G6-3□4A-Δ
	External (M)	D3V-21G6M-1□4A-Δ	D3V-21G6M-2□4A-Δ	D3V-21G6M-3□4A-Δ

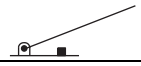
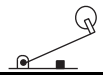
16 A (OF: 1.96 N {200 gf})

Actuator	Hinge position (far from plunger)	Contact form		
		SPDT	SPST-NC	SPST-NO
Plunger	---	D3V-16-1□5-Δ	D3V-16-2□5-Δ	D3V-16-3□5-Δ
Short hinge lever	Internal	D3V-161-1□5-Δ	D3V-161-2□5-Δ	D3V-161-3□5-Δ
	External (M)	D3V-161M-1□5-Δ	D3V-161M-2□5-Δ	D3V-161M-3□5-Δ

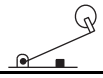
11 A (OF: 0.98 N {100 gf})

Actuator	Hinge position (far from plunger)	Contact form		
		SPDT	SPST-NC	SPST-NO
Plunger	---	D3V-11-1□4-Δ	D3V-11-2□4-Δ	D3V-11-3□4-Δ
Short hinge lever 	Internal	D3V-111-1□4-Δ	D3V-111-2□4-Δ	D3V-111-3□4-Δ
	External (M)	D3V-111M-1□4-Δ	D3V-111M-2□4-Δ	D3V-111M-3□4-Δ
Hinge lever 	Internal	D3V-112-1□4-Δ	D3V-112-2□4-Δ	D3V-112-3□4-Δ
	External (M)	D3V-112M-1□4-Δ	D3V-112M-2□4-Δ	D3V-112M-3□4-Δ
Long hinge lever 	Internal	D3V-113-1□4-Δ	D3V-113-2□4-Δ	D3V-113-3□4-Δ
	External (M)	D3V-113M-1□4-Δ	D3V-113M-2□4-Δ	D3V-113M-3□4-Δ
Simulated roller lever 	Internal	D3V-114-1□4-Δ	D3V-114-2□4-Δ	D3V-114-3□4-Δ
	External (M)	D3V-114M-1□4-Δ	D3V-114M-2□4-Δ	D3V-114M-3□4-Δ
Short hinge roller lever 	Internal	D3V-115-1□4-Δ	D3V-115-2□4-Δ	D3V-115-3□4-Δ
	External (M)	D3V-115M-1□4-Δ	D3V-115M-2□4-Δ	D3V-115M-3□4-Δ
Hinge roller lever 	Internal	D3V-116-1□4-Δ	D3V-116-2□4-Δ	D3V-116-3□4-Δ
	External (M)	D3V-116M-1□4-Δ	D3V-116M-2□4-Δ	D3V-116M-3□4-Δ

11 A (OF: 0.49 N {50 gf})

Actuator	Hinge position (far from plunger)	Contact form		
		SPDT	SPST-NC	SPST-NO
Plunger	---	D3V-11G-1□3-Δ	D3V-11G-2□4-Δ	D3V-11G-3□3-Δ
Short hinge lever 	Internal	D3V-11G1-1□3-Δ	D3V-11G1-2□4-Δ	D3V-11G1-3□3-Δ
	External (M)	D3V-11G1M-1□3-Δ	D3V-11G1M-2□3-Δ	D3V-11G1M-3□3-Δ
Hinge lever 	Internal	D3V-11G2-1□3-Δ	D3V-11G2-2□3-Δ	D3V-11G2-3□3-Δ
	External (M)	D3V-11G2M-1□3-Δ	D3V-11G2M-2□3-Δ	D3V-11G2M-3□3-Δ
Long hinge lever 	Internal	D3V-11G3-1□3-Δ	D3V-11G3-2□3-Δ	D3V-11G3-3□3-Δ
	External (M)	D3V-11G3M-1□3-Δ	D3V-11G3M-2□3-Δ	D3V-11G3M-3□3-Δ
Simulated roller lever 	Internal	D3V-11G4-1□3-Δ	D3V-11G4-2□3-Δ	D3V-11G4-3□3-Δ
	External (M)	D3V-11G4M-1□3-Δ	D3V-11G4M-2□3-Δ	D3V-11G4M-3□3-Δ
Short hinge roller lever 	Internal	D3V-11G5-1□3-Δ	D3V-11G5-2□3-Δ	D3V-11G5-3□3-Δ
	External (M)	D3V-11G5M-1□3-Δ	D3V-11G5M-2□3-Δ	D3V-11G5M-3□3-Δ
Hinge roller lever 	Internal	D3V-11G6-1□3-Δ	D3V-11G6-2□3-Δ	D3V-11G6-3□3-Δ
	External (M)	D3V-11G6M-1□3-Δ	D3V-11G6M-2□3-Δ	D3V-11G6M-3□3-Δ

6 A (OF: 0.98 N {100 gf})

Actuator	Hinge position (far from plunger)	Contact form		
		SPDT	SPST-NC	SPST-NO
Plunger	---	D3V-6-1□4-Δ	D3V-6-2□4-Δ	D3V-6-3□4-Δ
Short hinge lever 	Internal	D3V-61-1□4-Δ	D3V-61-2□4-Δ	D3V-61-3□4-Δ
	External (M)	D3V-61M-1□4-Δ	D3V-61M-2□4-Δ	D3V-61M-3□4-Δ
Hinge lever 	Internal	D3V-62-1□4-Δ	D3V-62-2□4-Δ	D3V-62-3□4-Δ
	External (M)	D3V-62M-1□4-Δ	D3V-62M-2□4-Δ	D3V-62M-3□4-Δ
Long hinge lever 	Internal	D3V-63-1□4-Δ	D3V-63-2□4-Δ	D3V-63-3□4-Δ
	External (M)	D3V-63M-1□4-Δ	D3V-63M-2□4-Δ	D3V-63M-3□4-Δ
Simulated roller lever 	Internal	D3V-64-1□4-Δ	D3V-64-2□4-Δ	D3V-64-3□4-Δ
	External (M)	D3V-64M-1□4-Δ	D3V-64M-2□4-Δ	D3V-64M-3□4-Δ
Short hinge roller lever 	Internal	D3V-65-1□4-Δ	D3V-65-2□4-Δ	D3V-65-3□4-Δ
	External (M)	D3V-65M-1□4-Δ	D3V-65M-2□4-Δ	D3V-65M-3□4-Δ
Hinge roller lever 	Internal	D3V-66-1□4-Δ	D3V-66-2□4-Δ	D3V-66-3□4-Δ
	External (M)	D3V-66M-1□4-Δ	D3V-66M-2□4-Δ	D3V-66M-3□4-Δ

Note: The □ in the model number is for the terminal code.
A: Solder/quick-connect terminals (#187)
C2: Quick-connect terminals (#187)
C: Quick-connect terminals (#250)

The Δ in the model number is for the mounting hole size.
None: 3.1 mm
K: 2.9 mm

Specifications

■ Ratings

Type	Rated voltage	Non-inductive load				Inductive load			
		Resistive load		Lamp load		Inductive load		Motor load	
		NC	NO	NC	NO	NC	NO	NC	NO
D3V-21	250 VAC	21 A		3 A		12 A		4 A	
	8 VDC	21 A		5 A		12 A		7 A	
	30 VDC	14 A		5 A		12 A		5 A	
	125 VDC	0.6 A		0.1 A		0.6 A		0.1 A	
	250 VDC	0.3 A		0.05 A		0.3 A		0.05 A	
D3V-16	250 VAC	16 A		2 A		10 A		3 A	
	8 VDC	16 A		4 A		10 A		6 A	
	30 VDC	10 A		4 A		10 A		4 A	
	125 VDC	0.6 A		0.1 A		0.6 A		0.1 A	
	250 VDC	0.3 A		0.05 A		0.3 A		0.05 A	
D3V-11	250 VAC	11 A		1.5 A		6 A		2 A	
	8 VDC	11 A		3 A		6 A		3 A	
	30 VDC	6 A		3 A		6 A		3 A	
	125 VDC	0.6 A		0.1 A		0.6 A		0.1 A	
	250 VDC	0.3 A		0.05 A		0.3 A		0.05 A	
D3V-6	250 VAC	6 A		3 A		4 A		---	
	8 VDC	6 A		3 A		4 A		---	
	30 VDC	6 A		3 A		4 A			
	125 VDC	0.4 A		0.1 A		0.4 A			
	250 VDC	0.3 A		0.05 A		0.2 A			
D3V-01	125 VAC	0.1 A		---		---		---	
	8 VDC	0.1 A		---		---		---	
	30 VDC	0.1 A							

Note: 1. The above current values are the normal current values of models with a contact gap of 1 mm (gap F), which vary with the normal current values of models with a contact gap of 0.5 mm (gap G).

2. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 ms max. (DC).

3. Lamp load has an inrush current of 10 times the steady-state current.

4. Motor load has an inrush current of 6 times the steady-state current.

5. The ratings values apply under the following test conditions:
Ambient temperature: 20±2°C
Ambient humidity: 65±5%
Operating frequency: 30 operations/min

■ Characteristics

Operating speed	0.1 mm to 1 m/s (plunger models without levers)
Operating frequency	Mechanical: 600 operations/min Electrical: 60 operations/min
Insulation resistance	100 MΩ min. (at 500 VDC)
Contact resistance (initial values)	D3V-21: 50 mΩ max. D3V-16, D3V-11, D3V-6: 30 mΩ max. D3V-01, 0.49 N {50 gf}: 50 mΩ max. 0.25 N {25 gf}: 100 mΩ max.
Dielectric strength (see note 1)	1,000 VAC, 50/60 Hz for 1 min between terminals of the same polarity
	2,000 VAC, 50/60 Hz for 1 min between current-carrying metal parts and ground, and between each terminal and non-current-carrying metal parts
Vibration resistance (see note 2)	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance (see note 2)	Destruction: 400 m/s^2 {approx. 40G} max. Malfunction: 100 m/s^2 {approx. 10G} max.
Durability (see note 3)	Mechanical: 10,000,000 operations min. Electrical: D3V-21: 50,000 operations min. D3V-16: 100,000 operations min. D3V-11: 200,000 operations min. D3V-6, D3V-01: 500,000 operations min.
Degree of protection	IEC IP00
Degree of protection against electric shock	Class I
Proof tracking index (PTI)	250
Ambient operating temperature	D3V-21, D3V-01: –25°C to 85°C (with no icing) D3V-16, D3V-11, D3V-6: –25°C to 105°C (with no icing)
Ambient operating humidity	85% max. (for 5°C to 35°C)
Weight	Approx. 6.2 g (plunger models without levers)

Note: 1. The dielectric strength values shown in the table are for models with a Separator.

2. For plunger models, the above values apply for use at both the free position and total travel position. For lever models, they apply at the total travel position.

3. For testing conditions, contact your OMRON sales representative.

■ Approved Standards

UL1054 (File No. E41515) CSA C22.2 No.55 (File No. LR21642) (Only standard ratings are listed.)

Rated voltage	D3V-21G	D3V-16	D3V-16G	D3V-11	D3V-11G	D3V-6	D3V-6G	D3V-01
125 VAC	21 A, 1/2 HP (See note.)	16 A, 1/2 HP	16 A, 1/2 HP	11 A, 1/2 HP	11 A, 1/2 HP	6 A, 1/4 HP	6 A, 1/4 HP	0.1 A
250 VAC	21 A, 1/2 HP (See note.)	16 A, 1/2 HP	16 A, 1/2 HP	11 A, 1/2 HP	11 A, 1/2 HP	6 A, 1/4 HP	6 A, 1/4 HP	---
125 VDC	---	0.6 A	0.1 A	0.6 A	0.1 A	---	---	---
250 VDC	---	0.3 A	---	0.3 A	---	---	---	---

Note: Approval projected.

EN 61058-1: 1992+A1: 1993 (License No. 119151L)

Rated voltage	D3V-21G	D3V-16	D3V-11	D3V-6	D3V-01
125 VAC	---	---	---	---	0.1 A
250 VAC	20 (4) A	16 (3) A	11 (3) A	6 (2) A	---

Testing conditions: 50,000 operations, T85 (0°C to 85°C) for D3V-21/D3V-01, T105 (0°C to 105°C) for D3V-16/D3V-11/D3V-6

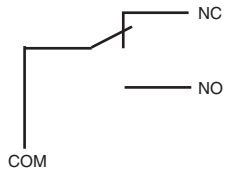
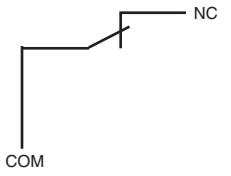
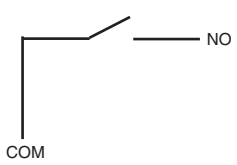
Rated voltage	D3V-21G
250 VAC	21 (8) A

Testing conditions: 10,000 operations, T85 (0°C to 85°C)

■ Contact Specifications

Item		D3V-21	D3V-16	D3V-11	D3V-6	D3V-01
Contact	Specification	Rivet				Crossbar
	Material	Silver alloy				Gold alloy
	Gap (standard value)	0.5 mm	1 mm (F gap type) or 0.5 mm (G gap type)			1.0 mm
Inrush current	NC	50 A max.	40 A max.	24 A max.	15 A max.	---
	NO					
Minimum applicable load		160 mA at 5 VDC				1 mA at 5 VDC

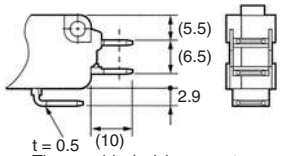
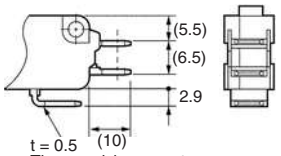
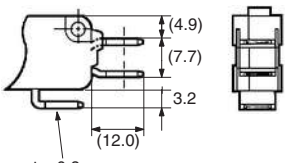
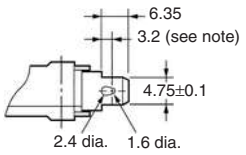
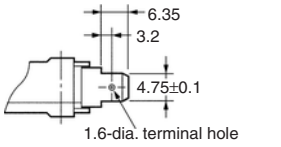
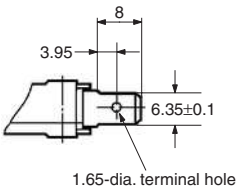
■ Contact Form

SPDT	SPST-NC	SPST-NO
		

Dimensions

Unit: mm (inch)

■ Terminals

Terminal type	Solder/Quick-connect Terminal (#187) (A)	Quick-connect Terminal (#187) (C2)	Quick-connect Terminal (#250) (C)
COM	 Three, solder/quick-connect terminals (#187)	 Three, quick-connect terminals (#187)	 Three, quick-connect terminals (#250)
Terminal dimensions	 **Note:** Indicates the length to the center of the 1.6-dia. holes		

Note: The table above is for the SPDT contact specifications. Two terminals will be available for SPST-NO or SPST-NC contact specifications. For terminal positions, refer to the above *Contact Form*.

■ Mounting Holes

