Miniature Basic Switch D3V

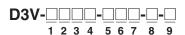
Reliable Basic Switch with External Lever

- 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.
- 200°C version for UL858/UL873 are in development for 0.1 A and 6 A ratings.



Ordering Information

■ Model Number Legend



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

■ Available Combinations

	Model	D3V-21		D3V-16			D3V-11			D3V-6			D3\	V-01		
	Rated current	21 A		16 A			11 A			6 A				0.1 A		
	OF 1.23 N 1.96 N 0.98 N {125 gf} {200 gf} {100 gf}			1.96 N 0.98 N 0.49 N {200 gf} {100 gf} {50 gf}		1.96 N {200 gf}		8 N 0 gf}	0.49 N {50 gf}		0.25 N {25 gf}					
Heat resis- tance	Contact gap Terminals		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	#187														•	•
(85°C)	#250	•													0	О
Standard (105°C)	#187		•	0	0	•	0	•	0	0	О	•	0	•		
(105 C)	#250		•	0	0	•	0	•	0	0	О	•	0	•		
High tem-	#187		0	0	О	0	0	0	0	0	О	0	0	0		
perature (125°C)	#250		0	0	0	0	0	О	0	0	0	0	0	0		

Note: 1. ●: Standard

O: Semi-standard

2. Consult OMRON for models with standard approval.

■ List of Models

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

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

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

Actuator	Hinge position	Contact form				
	(far from plunger)	SPDT	SPST-NC	SPST-NO		
Plunger		D3V-16-1□5-∆	D3V-16-2□5-∆	D3V-16-3□5-∆		
Short hinge lever	Internal	D3V-161-1□5-∆	D3V-161-2□5-∆	D3V-161-3□5-∆		
	External (M)	D3V-161M-1□5-∆	D3V-161M-2□5-∆	D3V-161M-3□5-∆		
Hinge lever	Internal	D3V-162-1□5-∆	D3V-162-2□5-∆	D3V-162-3□5-∆		
Tillige level	External (M)	D3V-162M-1□5-∆	D3V-162M-2□5-∆	D3V-162-3□5-Δ D3V-162M-3□5-Δ D3V-163-3□5-Δ D3V-163M-3□5-Δ		
Long hinge lever	Internal	D3V-163-1□5-∆	D3V-163-2□5-∆	D3V-163-3□5-∆		
	External (M)	D3V-163M-1□5-∆	D3V-163M-2□5-∆	D3V-163M-3□5-∆		
Simulated roller lever	Internal	D3V-164-1□5-∆	D3V-164-2□5-∆	D3V-164-3□5-∆		
<u> </u>	External (M)	D3V-164M-1□5-∆	D3V-164M-2□5-∆	D3V-164M-3□5-∆		
Short hinge roller lever	Internal	D3V-165-1□5-∆	D3V-165-2□5-∆	D3V-165-3□5-∆		
	External (M)	D3V-165M-1□5-∆	D3V-165M-2□5-∆	D3V-165M-3□5-∆		
Hinge roller lever	Internal	D3V-166-1□5-∆	D3V-166-2□5-∆	D3V-166-3□5-∆		
	External (M)	D3V-166M-1□5-∆	D3V-166M-2□5-∆	D3V-166M-3□5-∆		

Note: The $\hfill\Box$ in the model number is for the terminal code.

A: C2: Solder/quick-connect terminals (#187) 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 2.9 mm

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

Actuator	Hinge position		Contact form				
	(far from plunger)	SPDT	SPST-NC	SPST-NO			
Plunger		D3V-16-1□4-∆	D3V-16-2□4-∆	D3V-16-3□4-∆			
Short hinge lever	Internal	D3V-161-1□4-∆	D3V-161-2□4-∆	D3V-161-3□4-∆			
	External (M)	D3V-161M-1□4-∆	D3V-161M-2□4-∆	D3V-161M-3□4-∆			
Hinge lever	Internal	D3V-162-1□4-∆	D3V-162-2□4-∆	D3V-162-3□4-∆			
Tillige level	External (M)	D3V-162M-1□4-∆	D3V-162M-2□4-∆	D3V-162M-3□4-∆			
Long hinge lever	Internal	D3V-163-1□4-∆	D3V-163-2□4-∆	D3V-163-3□4-∆			
<u> </u>	External (M)	D3V-163M-1□4-∆	D3V-163M-2□4-∆	D3V-163M-3□4-∆			
Simulated roller lever	Internal	D3V-164-1□4-∆	D3V-164-2□4-∆	D3V-164-3□4-∆			
	External (M)	D3V-164M-1□4-∆	D3V-164M-2□4-∆	D3V-164M-3□4-∆			
Short hinge roller lever	Internal	D3V-165-1□4-∆	D3V-165-2□4-∆	D3V-165-3□4-∆			
	External (M)	D3V-165M-1□4-∆	D3V-165M-2□4-∆	D3V-165M-3□4-∆			
Hinge roller lever	Internal	D3V-166-1□4-∆	D3V-166-2□4-∆	D3V-166-3□4-∆			
	External (M)	D3V-166M-1□4-∆	D3V-166M-2□4-∆	D3V-166M-3□4-∆			

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

Actuator	Hinge position	Contact form					
	(far from plunger)	SPDT	SPST-NC	SPST-NO			
Plunger		D3V-11-1□5-∆	D3V-11-2□5-∆	D3V-11-3□5-∆			
Short hinge lever	Internal	D3V-111-1□5-∆	D3V-111-2□5-∆	D3V-111-3□5-∆			
<u></u>	External (M)	D3V-111M-1□5-∆	D3V-111M-2□5-∆	D3V-111M-3□5-∆			
Hinge lever	Internal	D3V-112-1□5-∆	D3V-112-2□5-∆	D3V-112-3□5-∆			
	External (M)	D3V-112M-1□5-∆	D3V-112M-2□5-∆	D3V-112M-3□5-∆			
Long hinge lever	Internal	D3V-113-1□5-∆	D3V-113-2□5-∆	D3V-113-3□5-∆			
<u> </u>	External (M)	D3V-113M-1□5-∆	D3V-113M-2□5-∆	D3V-113M-3□5-∆			
Simulated roller lever	Internal	D3V-114-1□5-∆	D3V-114-2□5-∆	D3V-114-3□5-∆			
	External (M)	D3V-114M-1□5-∆	D3V-114M-2□5-∆	D3V-114M-3□5-∆			
Short hinge roller lever	Internal	D3V-115-1□5-∆	D3V-115-2□5-∆	D3V-115-3□5-∆			
	External (M)	D3V-115M-1□5-∆	D3V-115M-2□5-∆	D3V-115M-3□5-∆			
Hinge roller lever	Internal	D3V-116-1□5-∆	D3V-116-2□5-∆	D3V-116-3□5-∆			
	External (M)	D3V-116M-1□5-∆	D3V-116M-2□5-∆	D3V-116M-3□5-∆			

Note: The $\hfill\Box$ 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 2.9 mm

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

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

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

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

Note: The \square 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 2.9 mm

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

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

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

Actuator	Hinge position	Contact form				
	(far from plunger)	SPDT	SPST-NC	SPST-NO		
Plunger		D3V-6G-1□3-∆	D3V-6G-2□3-∆	D3V-6G-3□3-∆		
Short hinge lever	Internal	D3V-6G1-1□3-∆	D3V-6G1-2□3-∆	D3V-6G1-3□3-∆		
<u> </u>	External (M)	D3V-6G1M-1□3-∆	D3V-6G1M-2□3-∆	D3V-6G1M-3□3-∆		
Hinge lever	Internal	D3V-6G2-1□3-∆	D3V-6G2-2□3-∆	D3V-6G2-3□3-∆		
	External (M)	D3V-6G2M-1□3-∆	D3V-6G2M-2□3-∆	D3V-6G2M-3□3-∆		
Long hinge lever	Internal	D3V-6G3-1□3-∆	D3V-6G3-2□3-∆	D3V-6G3-3□3-∆		
	External (M)	D3V-6G3M-1□3-∆	D3V-6G3M-2□3-∆	D3V-6G3M-3□3-∆		
Simulated roller lever	Internal	D3V-6G4-1□3-∆	D3V-6G4-2□3-∆	D3V-6G4-3□3-∆		
	External (M)	D3V-6G4M-1□3-∆	D3V-6G4M-2□3-∆	D3V-6G4M-3□3-∆		
Short hinge roller lever	Internal	D3V-6G5-1□3-∆	D3V-6G5-2□3-∆	D3V-6G5-3□3-∆		
	External (M)	D3V-6G5M-1□3-∆	D3V-6G5M-2□3-∆	D3V-6G5M-3□3-∆		
Hinge roller lever	Internal	D3V-6G6-1□3-∆	D3V-6G6-2□3-∆	D3V-6G6-3□3-∆		
	External (M)	D3V-6G6M-1□3-∆	D3V-6G6M-2□3-∆	D3V-6G6M-3□3-∆		

Note: The $\hfill\Box$ 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)

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

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

Actuator	Hinge position	Contact form				
	(far from plunger)	SPDT	SPST-NC	SPST-NO		
Plunger		D3V-01-1□3-∆	D3V-01-2□3-∆	D3V-01-3□3-∆		
Short hinge lever	Internal	D3V-011-1□3-∆	D3V-011-2□3-∆	D3V-011-3□3-∆		
<u> 4 </u>	External (M)	D3V-011M-1□3-∆	D3V-011M-2□3-∆	D3V-011M-3□3-∆		
Hinge lever	Internal	D3V-012-1□3-∆	D3V-012-2□3-∆	D3V-012-3□3-∆		
	External (M)	D3V-012M-1□3-∆	D3V-012M-2□3-∆	D3V-012M-3□3-∆		
Long hinge lever	/ Internal	D3V-013-1□3-∆	D3V-013-2□3-∆	D3V-013-3□3-∆		
	External (M)	D3V-013M-1□3-∆	D3V-013M-2□3-∆	D3V-013M-3□3-∆		
Simulated roller lever	Internal	D3V-014-1□3-∆	D3V-014-2□3-∆	D3V-014-3□3-∆		
	External (M)	D3V-014M-1□3-∆	D3V-014M-2□3-∆	D3V-014M-3□3-∆		
Short hinge roller lever	Internal	D3V-015-1□3-∆	D3V-015-2□3-∆	D3V-015-3□3-∆		
	External (M)	D3V-015M-1□3-∆	D3V-015M-2□3-∆	D3V-015M-3□3-∆		
Hinge roller lever	Internal	D3V-016-1□3-∆	D3V-016-2□3-∆	D3V-016-3□3-∆		
	External (M)	D3V-016M-1□3-∆	D3V-016M-2□3-∆	D3V-016M-3□3-∆		

01 A (OF: 0.25 N {25 gf})

	Actuator	Hinge position	Contact form				
		(far from plunger)	SPDT	SPST-NC	SPST-NO		
Plunger			D3V-01-1□2-∆	D3V-01-2□2-∆	D3V-01-3□2-∆		

Note: The \square in the model number is for the terminal code. A: Solder/quick-connect terminals (#187)

Quick-connect terminals (#187) Quick-connect terminals (#250) 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

Туре	Rated voltage		Non-ind	ductive load			Inductive load			
		Resist	ive load	Lamp	load	Induct	ve load	Moto	r 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: $20\pm2^{\circ}C$

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 m Ω max. D3V-16, D3V-11, D3V-6: 30 m Ω max. D3V-01, 0.49 N (50 gf): 50 m Ω max. 0.25 N (25 gf): 100 m Ω 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/s² {approx. 40G} max. Malfunction: 100 m/s² {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

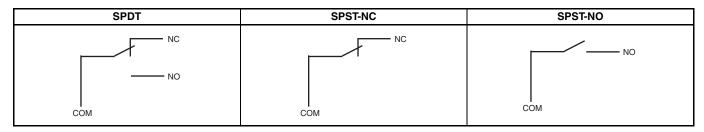
Rated voltage	D3V-21G
250 VAC	21 (8) A

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	Rivet				
	Material	Silver alloy	Silver 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 \	160 mA at 5 VDC				

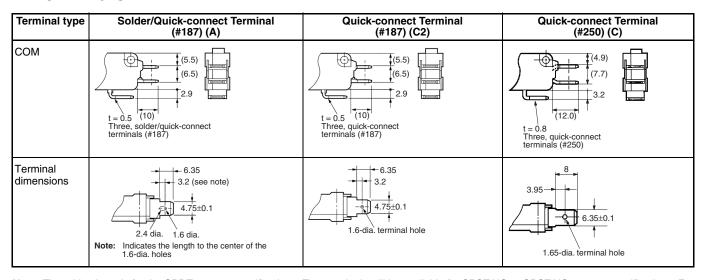
■ Contact Form



Dimensions

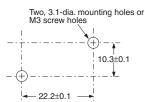
Unit: mm (inch)

■ Terminals



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

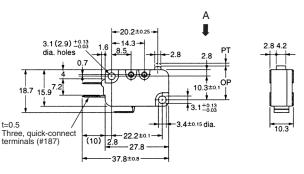


■ Dimensions and Operating Characteristics

- Note: 1. All units are in millimeters unless otherwise indicated.
 - 2. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.
 - 3. The following illustrations and drawings are for quick-connect terminals (#187) (terminals C2). D3V models incorporate terminals A and C. These models are different from #187 models in terminal size only. Terminals A and C are omitted from the following drawings. Refer to *Terminals* on page 10 for these terminals.
 - 4. The following illustrations and drawings are for models with the hinge position set to external/further than plunger. Models with the hinge position set to internal position are not shown here. For details about the internal position models, contact your OMRON sales representative. Operating characteristics are the same for these two types of models.
 - **5.** The \square in the model number is for the terminal code.
 - 6. The Δ in the model number is for the mounting hole size. The hole size in the following illustrations of models with a suffix "K" in the Δ is 2.9 mm.
 - 7. The operating characteristics are for operation in the A direction (\blacksquare).

Plunger Models



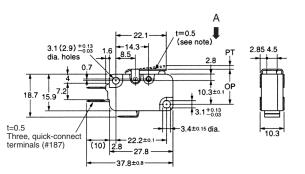


Model	D3V-21G-1□4A-∆	D3V-16-1□5-∆ D3V-11-1□5-∆	D3V-11-1□4-∆ D3V-6-1□4-∆	D3V-6G-1□3-∆	D3V-01-1□3-∆	D3V-01-1□2-∆
OF max.	125 g {1.23 N}	200 g {1.96 N}	100 g {0.98 N}	50 g {0.49 N}	50 g {0.49 N}	25 g {0.25 N}
RF min.	20 g {0.20 N}	50 g {0.49 N}	15 g {0.15 N}	5 g {0.05 N}	5 g {0.05 N}	3 g {0.03 N}
PT max.	1.2 mm	1.2 mm		1.2 mm		
OT min.	1.0 mm	1.0 mm			1.0 mm	
MD max.	0.3 mm	0.4 mm (F gap type) or 0.3 mm (G gap type)			0.4 mm	
OP	14.7±0.4 mm					

Short Hinge Lever Models

D3V-21GM-1 \square 4A- \triangle D3V-161M-1 \square 5- \triangle D3V-111M-1 \square 5- \triangle D3V-111M-1 \square 4- \triangle D3V-61M-1 \square 4- \triangle D3V-6G1M-1 \square 3- \triangle D3V-01-1 \square 2- \triangle D3V-01M1-1 \square 3- \triangle

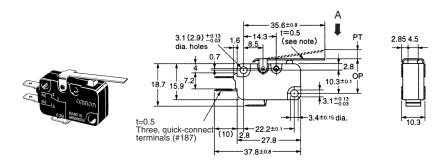




Note: Stainless-steel lever.

Model	D3V-21G1M-1□4A-∆	D3V-161M-1□5-∆ D3V-111M-1□5-∆	D3V-111M-1□4-∆ D3V-61M-1□4-∆	D3V-6G1M-1□3-∆	D3V-011M-1□3-∆
OF max.	125 g {1.23 N}	200 g {1.96 N}	100 g {0.98 N}	50 g {0.49 N}	
RF min.	20 g {0.20 N}	50 g {0.49 N}	15 g {0.15 N}	5 g {0.05 N}	
PT max.	1.6 mm	1.6 mm			1.6 mm
OT min.	0.8 mm	0.8 mm			0.8 mm
MD max.	0.5 mm	0.6 mm (F gap type) or 0		0.6 mm	
OP	15.2±0.5 mm				

Hinge Lever Models

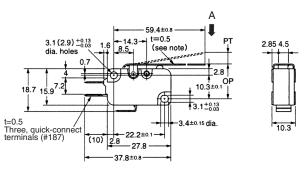


Note: Stainless-steel lever.

Model	D3V-21G2M-1□4A-∆	D3V-162M-1□5-∆ D3V-112M-1□5-∆	D3V-112M-1□4-∆ D3V-62M-1□4-∆	D3V-6G2M-1□3-∆	D3V-012M-1□3-∆
OF max.	80 g {0.78 N}	125 g {1.23 N}	60 g {0.59 N}		30 g {0.29 N}
RF min.	6 g {0.06 N}	14 g {0.14 N}	6 g {0.06 N}		
PT max.	4.0 mm	4.0 mm	4.0 mm		
OT min.	1.6 mm	1.6 mm			1.6 mm
MD max.	0.8 mm	1.5 mm (F gap type) or 0.8 mm (G gap type)			1.5 mm
OP	15.2±1.2 mm				

Long Hinge Lever Models



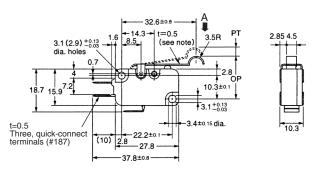


Note: Stainless-steel lever.

Model	D3V-21G3M-1□4A-∆	D3V-163M-1□5-∆ D3V-113M-1□5-∆	D3V-113M-1□4-∆ D3V-63M-1□4-∆	D3V-6G3M-1□3-∆	D3V-013M-1□3-∆
OF max.	45 g {0.44 N}	70 g {0.69 N}	35 g {0.34 N}	20 g {0.20 N}	
RF min.	3 g {0.03 N}	6 g {0.06 N}			
PT max.	9.0 mm	9.0 mm	9.0 mm		9.0 mm
OT min.	2.0 mm	2.0 mm	3.2 mm		3.2 mm
MD max.	2.0 mm	2.8 mm (F gap type) or 2.0 mm (G gap type)	2.8 mm (F gap type) or 2.0 mm (G gap type)		2.8 mm
OP	15.2 ^{+2.6} mm		15.2±2.6 mm		

Simulated Roller Lever Models



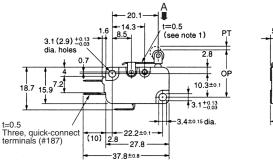


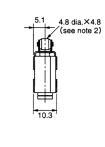
Note: Stainless-steel lever.

Model	D3V-21G4M-1□4A-∆	D3V-164M-1□5-∆ D3V-114M-1□5-∆	D3V-114M-1□4-∆ D3V-64M-1□4-∆	D3V-6G4M-1□3-∆	D3V-014M-1□3-∆
OF max.	85 g {0.83 N}	125 g {1.23 N}	60 g {0.59 N}	30 g {0.29 N}	
RF min.	7 g {0.07 N}	14 g {0.14 N}	6 g {0.06 N}		
PT max.	4.0 mm	4.0 mm			4.0 mm
OT min.	1.6 mm	1.6 mm			1.6 mm
MD max.	1.4 mm	1.5 mm (F gap type) or 0		1.5 mm	
OP	18.7±1.2 mm				

Short Hinge Roller Lever Models







Note: 1. Stainless-steel lever.

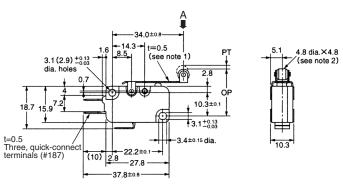
2. Oilless polyacetal resin roller.

Model	D3V-21G5M-1□4A-∆	D3V-165M-1□5-∆ D3V-115M-1□5-∆	D3V-115M-1□4-∆ D3V-65M-1□4-∆	D3V-6G5M-1□3-∆	D3V-015M-1□3-∆
OF max.	145 g {1.42 N}	240 g {2.35 N}	120 g {1.18 N}	60 g {0.59 N}	
RF min.	20 g {0.2 N}	50 g {0.49 N}	15 g {0.15 N}	6 g {0.06 N}	
PT max.	1.6 mm	1.6 mm			1.6 mm
OT min.	0.8 mm	0.8 mm			0.8 mm
MD max.	0.5 mm	0.6 mm (F gap type) or 0		0.6 mm	
OP	20.7±0.6 mm				

Hinge Roller Lever Models

 $\begin{array}{c|cccc} D3V-21G6M-1 \square 4A-\Delta \\ D3V-166M-1 \square 5-\Delta \\ D3V-116M-1 \square 5-\Delta \\ D3V-116M-1 \square 4-\Delta \\ D3V-66M-1 \square 4-\Delta \\ D3V-6G6M-1 \square 3-\Delta \\ D3V-016M-1 \square 3-\Delta \\ \end{array}$





Note: 1. Stainless-steel lever.

2. Oilless polyacetal resin roller.

Model	D3V-21G6M-1□4A-∆	D3V-166M-1□5-∆ D3V-116M-1□5-∆	D3V-116M-1□4-∆ D3V-66M-1□4-∆	D3V-6G6M-1□3-∆	D3V-016M-1□3-∆		
OF max.	80 g {0.79 N}	125 g {1.23 N}	60 g {0.59 N}	30 g {0.29 N}			
RF min.	5 g {0.05 N}	14 g {0.14 N}	6 g {0.06 N}				
PT max.	4.0 mm	4.0 mm	4.0 mm				
OT min.	1.6 mm	1.6 mm			1.6 mm		
MD max.	0.8 mm	1.5 mm (F gap type) or 0	1.5 mm				
OP	20.7±1.2 mm	•			•		

Precautions

■ Cautions

Handling

Be careful not to drop the switch. Doing so may cause damage to the switch's internal components because it is designed for a small load.

■ Correct Use

Mounting

Use two M3 mounting screws with an appropriate screwdriver to mount the switch. Tighten the screws to a torque of 0.39 to 0.59 N \cdot m {4 to 6 kgf \cdot cm}.

Mounting Direction

Mount lever-operated switches with a maximum operating force of 0.49 N in a direction where the actuator weight will not be applied to the switch. Since the switch is designed for a small load, its resetting force is small. Therefore, resetting failure may occur if unnecessary load is applied to the switch.

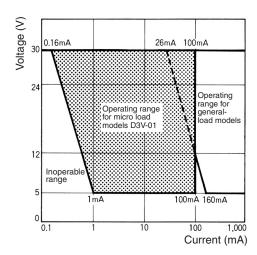
Insulation Distance

According to EN61058-1, the minimum insulation thickness for this switch should be 1.1 mm and minimum clearance distance between the terminal and mounting plate should be 1.9 mm. If the insulation distance cannot be provided in the product incorporating the switch, either use a switch with insulation barrier or use a Separator to ensure sufficient insulation distance.

Using Micro Loads

Using a model for ordinary loads to open or close the contact of a micro load circuit may result faulty contact. Use models that operate in the following range. However, even when using micro load models within the operating range shown below, if inrush current occurs when the contact is opened or closed, it may increase contact wear and so decrease life expectancy. Therefore, insert a contact protection circuit where necessary.

The minimum applicable load is the N-level reference value. This value indicates the malfunction reference level for the reliability level of 60% (λ 60). The equation, λ 60 = 0.5 \times 10⁻⁶/operations indicates that the estimated malfunction rate is less than 1/2,000,000 operations with a reliability level of 60%.



Solder Terminal Approval Conditions

Use of soldering iron for normal soldering is acceptable. Soldering hook holes version available.

Soldering terminal types 1 and 2 are met.

OMRON Switches for Integration in Machinery

Miniature Basic Switches (V-size)















Subminiature Basic Switches (S-size)









Ultra Subminiature Basic Switches (J-size)





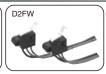


Sealed Basic Switches











Door Switches







Miniature Detection Switches









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- <u>Prices.</u> All prices stated are current, subject to change without notice by Seller. Buyer agrees to pay the price in effect at time of shipment. <u>Discounts.</u> Cash discounts, if any, will apply only on the net amount of invoices sent to Buyer after deducting transportation charges, taxes and duties, and will be allowed only if (i) the invoice is paid according to Seller's payment terms and (ii) Buyer has no past due amounts owing to Seller. <u>Orders.</u> Seller will accept no order less than \$200 net billing. <u>Governmental Approvals.</u> Buyer shall be responsible for, and shall bear all costs involved in, obtaining any government approvals required for the importation or sale of the Goods.

- tation or sale of the Goods
- Taxes. All taxes, duties and other governmental charges (other than general real property and income taxes), including any interest or penalties thereon, imposed directly or indirectly on Seller or required to be collected directly or indirectly by Seller for the manufacture, production, sale, delivery, importation, consumption or use of the Goods sold hereunder (including customs duties and sales, excise, use, turnover and license taxes) shall be charged to and remitted by Buyer to Seller.
- Financial. If the financial position of Buyer at any time becomes unsatisfactory to Seller, Seller reserves the right to stop shipments or require satisfactory security or payment in advance. If Buyer fails to make payment or otherwise security or payment in advance. If Buyer fails to make payment or otherwise comply with these Terms or any related agreement, Seller may (without liability and in addition to other remedies) cancel any unshipped portion of Goods sold hereunder and stop any Goods in transit until Buyer pays all amounts, including amounts payable hereunder, whether or not then due, which are owing to it by Buyer. Buyer shall in any event remain liable for all unpaid accounts. Cancellation: Etc. Orders are not subject to rescheduling or cancellation unless Buyer indemnifies Seller fully against all costs or expenses arising in connection therewith.

 Force Majeure. Seller shall not be liable for any delay or failure in delivery

Force Majeure. Seller shall not be liable for any delay or failure in delivery resulting from causes beyond its control, including earthquakes, fires, floods, strikes or other labor disputes, shortage of labor or materials, accidents to machinery, acts of sabotage, riots, delay in or lack of transportation or the requirements of any government authority.

Shipping: Delivery.

Unless otherwise expressly agreed in writing by Seller:
a. Shipments shall be by a carrier selected by Seller;
b. Such carrier shall act as the agent of Buyer and delivery to such carrier

- b. Such carrier shall act as the agent of Buyer and delivery to such carrier shall constitute delivery to Buyer;
 c. All sales and shipments of Goods shall be FOB shipping point (unless otherwise stated in writing by Seller), at which point title to and all risk of loss of the Goods shall pass from Seller to Buyer, provided that Seller shall retain a security interest in the Goods until the full purchase price is paid by Buyer;
 d. Delivery and shipping dates are estimates only.
 e. Seller will package Goods as it deems proper for protection against normal handling and extra charges apply to special conditions.
 11. Claims. Any claim by Buyer against Seller for shortage or damage to the Goods occurring before delivery to the carrier must be presented in writing to Seller within 30 days of receipt of shipment and include the original transportation bill signed by the carrier noting that the carrier received the Goods from Seller in the condition claimed.

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