

**I. TYPE**

1. Type : D3V-11G31-1C25-K

**II. SAFETY STANDARD****Standards****Approval No.**

- |        |                 |
|--------|-----------------|
| a. UL  | File No.E41515  |
| b. CSA | File No.LR21642 |
| c. VDE | File No.119151L |

**III. CONFIGURATION**

- |                          |   |                           |
|--------------------------|---|---------------------------|
| 1. Outline Drawing       | : | 0415361                   |
| 2. Operating Method      | : | Snap Action               |
| 3. Contact Configuration | : | Single Pole, Double Throw |
| 4. Structure             | : | Standard                  |
| 5. Terminal Form         | : | Tab Terminal # 187(0.5)   |

**IV. OPERATING CHARACTERISTIC**

No	Characteristic	Abb.	Units	Standards	Notes
1	Operating Force	OF	N (gf)	1.47 MAX	150 gf MAX
2	Release Force	RF	N (gf)	0.196 MIN	20 gf MIN
3	Pre - Travel	PT	mm	3.4 MAX	
4	Movement Differential	MD	mm	1.2 MAX	
5	Over Travel	OT	mm	1.4 MIN	
6	Operating Position	OP	mm	20.3 ± 1.0	

**V. ELECTRICAL CHARACTERISTICS**

1. Contact Resistance : 30 mΩ Maximum (Initial value)  
 \* Measuring method : Voltage Drop method at 1 Ampere, 6 Volt DC at Free Position (FP) and Total Travel Position (TTP)

## 2. Insulation Resistance and Dielectric Strength

No	Items	Insulation Resistance (IR) 500 Volt DC	Dielectric Strength (HV) 50/60 Hz. 1 minute
1	Between each terminal of the same polarity	100 MegaΩ MIN	1000 Volt
2	Between each terminal and ground	100 MegaΩ MIN	2000 Volt (With Separator)

## 3. Switching capacity ratings

Rated Voltage Item	Non-Inductive load (A)				Inductive Load (A)			
	Resistive		Lamp		Inductive		Motor	
	NO	NC	NO	NC	NO	NC	NO	NC
125 VAC	11	11	1.5	1.5	6	6	2	2
250 VAC	11	11	1.5	1.5	6	6	2	2
125 VDC	0.1	0.1						

## Notes :

1. Inductive load has a power factor 0.4 MIN. (AC) and a time constant of 7 msec MAX. (DC)
2. Lamp load has an inrush current of 10 times the steady-state current, while motor load has an inrush current of 6 times the steady-state current.

## 4. Safety Standards ratings

UL / CSA	11A 125V , 250 VAC 0.1A 125VDC 1/2HP 125VAC , 1/2HP 250VAC
VDE	11A 250VAC (resistive) 3A 250VAC (motor load)

## 5. Overload current test

It shall possible to switch following condition at frequency 8~10 times perminute, 50 operations.

AC 250V      50(60)Hz      13.75A      power factor 0.75 ~ 0.8  
DC 125V                      0.15A      resistive load

## 6. Temperature Rise

It shall be below 30° C under the following condition :

## a. Endurance Test

Load : 250 VAC, 11 A power factor 0.75 ~ 0.8 Inductive, 6000 operations.

## b. Measuring

After Test (a), measured at terminal with current 11 Ampere at  
Free Position (FP) and Total Travel Position (TTP)

## 7. Inrush current

Normally (NO-NC) : 24 A MAX

Note : Load is applied by use of an electric bulb with tungsten filament.

## VI. MECHANICAL CHARACTERISTICS

## 1. Vibration

Contact separation shall be less than 1 msec. at double amplitude 1.5 mm, oscillating frequency of 10 to 55 Hz. in 3 to 5 minute for 1 cycle.

It shall be satisfy following conditions after applied double amplitude of 1.5 mm, vibration frequency of 10~55 Hz in 3 to 5 minute for 2 hours each (a total 6 hours) at X, Y and Z directions.

\* There shall be no abnormality both electrically and mechanically.

## 2. Shock

Contact separation shall be less than 1 msec. when 200 m/sec<sup>2</sup> (about 20G) at JIS0912 shock test.

Note : Common test conditions for VI.1 and VI.2  
5V DC, 100 mA at FP or TTP

## 3. Actuator strength

It shall satisfy following condition when a thrust load 10 times of the specified OF 7.4 N (0.75 kgf) to the operating direction vertically for 1 minutes.

\* There shall be no abnormality both electrically and mechanically.

## 4. Terminal Strength

Tab terminal : 80 N (8.16Kgf) /min. (insert and Pull out)

## VII. ATMOSPHERE

## 1. Temperature

-25° C ~ +105° C (No freeze in low temperature)

## 2. Humidity

45% ~ 85% RH

## VIII. ENDURANCE

## 1. Operating frequency

Mechanical : 600 times/min. MAX

Electrical : 60 times/min. MAX

## 2. Operating speed

0.1 ~ 1000 mm/sec

## 3. Service Life

Life	Operating frequency	Stroke	Reliability level	Survival rate
200,000 cycle	30 times / min	Full stroke	λ 60 %	95 %

Rated loads (V.3)

## 4. Mechanical Service Life

Life	Operating frequency	Stroke	Reliability level	Survival rate
10,000,000 cycle	60 times / min	Full stroke	λ 60 %	95 %

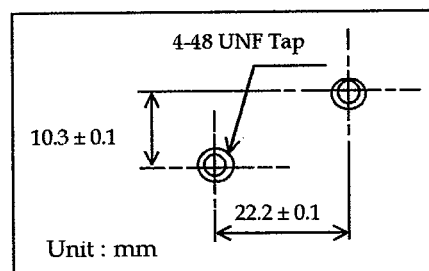
SYM	DATE	E C CONTENTS	E C NO	SIGN

## SPECIAL NOTES

### I. SWITCH MOUNTING

#### 1. Mounting the panel

- \* Process based on right figure which shows processing of the mounting holes
- \* Securely fix the switch using screws of specified size ( 2 x No. 4-48 UNF screws ) with the spring washer.
- \* Tighten the mounting screws of the switch at the specified torque 0.39 ~ 0.59 N.m ( 4 to 6 kg cm )



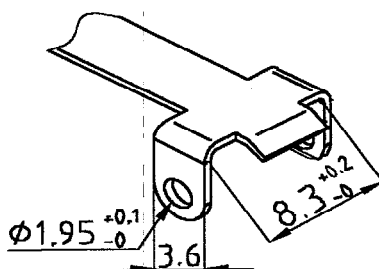
#### 2. Notes on the switch operating and setting

- \* In the free position of a switch actuator, where no external force is exerted upon the actuator.
- \* Sufficiently take a stroke of the actuator in operation. ( Nearly 90% specified OT )
- \* When the moment inertia of the operating body applies to the actuator, it may damage the switch. **Consult OMRON beforehand.**
- \* The operating body works to the way of the actuator movement.

#### 3. Insulating and wiring the switch

- \* Make sure that the switch is provided with an appropriate creepage and air-gap distance when mounting the switch on a metallic panel
- \* Special separator is recommended to be provided on the switch mounting.

#### 4. Recommended dimension for outside lever mounting



### II. CONVERSION OF PRODUCT

1. Avoid to keep in the atmosphere, where happens organic gases and dusts, with high temperature and humidity
2. Re-check for long term conserved switch in 3 to 6 months after production may recommend.

### III. THE TERM OF VALIDITY

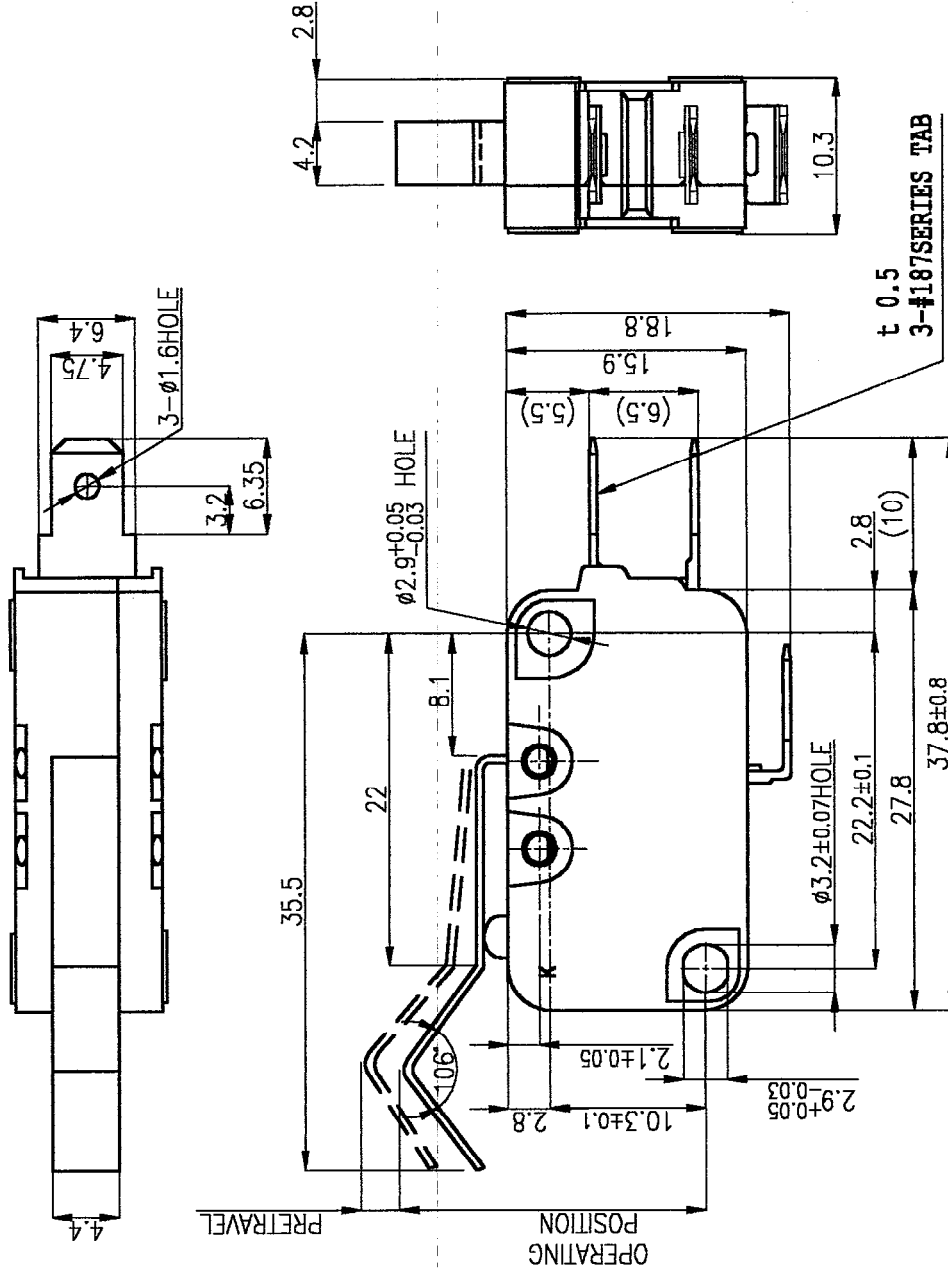
This specification will be invalid if we receive no approval or no order placement of yours within one year since this is submitted.


THE MASTER  
DRAWING.

1. CHARACTERISTICS

OPERATING FORCE	1.47N(150gf) MAX
RELEASE FORCE	0.196N(20gf) MIN
PRETRAVEL	3.4 mm MAX
OVER TRAVEL	1.4 mm MIN
MOVEMENT DIFFERENTIAL	1.2 mm MAX
OPERATING POSITION	20.3 ± 1.0 mm

2. CONTACT ARRANGEMENT  
SINGLE POLE DOUBLE THROW
3. ELECTRICAL RATINGS  
11A 1/2HP 125 250 VAC ~  
0.1A 125VDC ---



					TYPE D3V-11G31-1C25-K MINIATURE BASIC SWITCH OUTLINE DRAWING					SCALE 2 : 1		
										3RD ANGLE		
										SHEET		
					MATERIAL		CHECKED		APPROVED			
					FINISH							
					TOLERANCES UNLESS SPECIFIED ±0.4		DESIGNED 22.02.2001					
							MERIYANTI					

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