NNC

NV Series

Microswitch

Features:

- Up to 21A switching current
- Variety of contact terminals
- Variety of levers
- REACH compliance
- UL:E464635
- ENEC:00910-A3
- KC:SU02105-18003
- CQC:13002099215



ORDERING INFORMATION

	NV-	16	G	-1	C2	5

1.NV series:

2.Rating: 21: 21(6)A 250VAC;

16: 16(4)A 250VAC; **10:** 10(3)A 250VAC

3.Actuator: Blank: Pin plunger; **W:** Simulated roller lever

Z: Short hinger lever; **Z1:** Hinger lever; **Z2:** Long hinge lever

G: Short hinger roller lever; **G1:** Hinger roller lever;

4.Contact Form: 1: 1CO(SPDT); **2:** 1NC(SPST); **3:** 1NO(SPST)

5.Terminals: A: Solder terminals

C: Quick-connect terminals(#250)6.3*0.8mm

C2: Quick-connect terminals(#187)4.8*0.5mm

C3: Quick-connect terminals(#187)4.8*0.8mm

6.Max. operating force(OF): 4: 0.98N; **5:** 1.96N; **6:** 3.92N

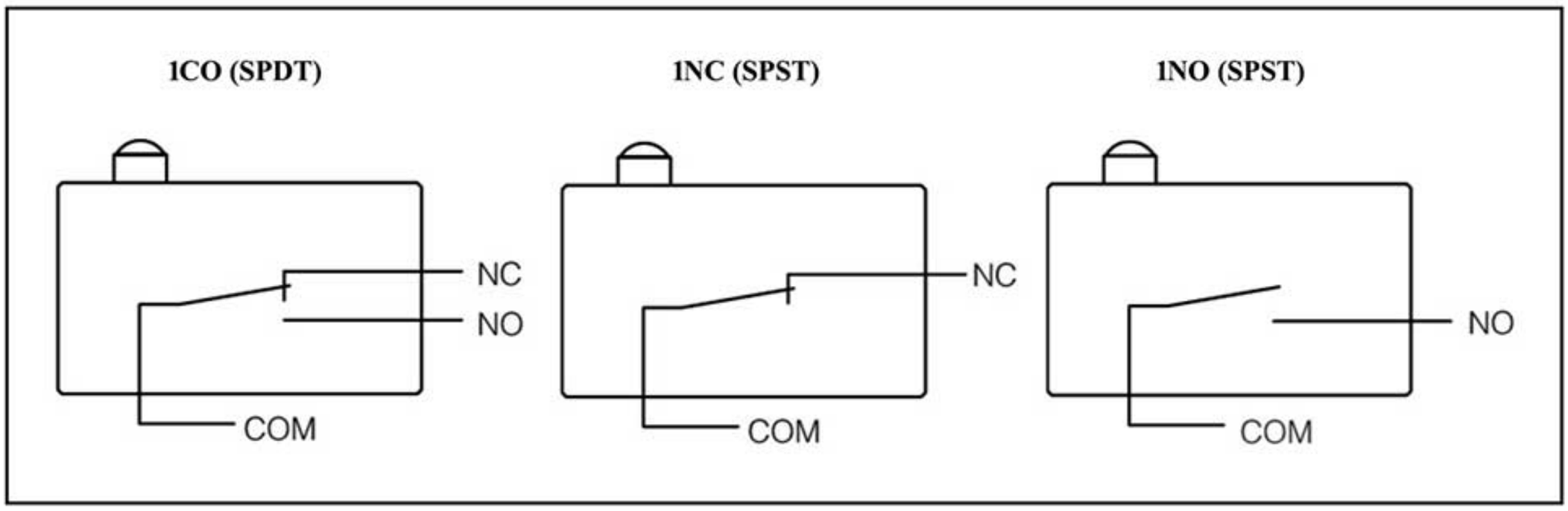
PRODUCT CROSS REFERENCE

CLION	OMRON	TONE LUCK	CHERRY
NV series	V series	MQS-2 series	W4 series

CONTACT SPECIFICATIONS

Description		NV-16			NV-21		
Contact	Appearance	Rivet					
	Material	AgSnO2					
	Gap (Standard value)	1mm					
Inrush current	NC	40A Max.			50A Max.		
	NO						
Rating	Rated voltage	AC250V	DC125V	DC250V	AC250V	DC125V	DC250V
	Resistive load	16A	0.6A	0.3A	21A	0.6A	0.3A
Min.applicable load		DC5V 160mA					

CONTACT FORM



APPROVED SAFETY STANDARD

CQC(GB150292.1)

Rated voltage	NV-16	NV-21
AC125V	16(4)A	21(6)A
AC250V		

UL(UL61058,CSA-C22.2No.61058-1)

Rated voltage	NV-16	NV-21
AC125V	16A	21A
AC250V		

ENEC(EN61058-1)

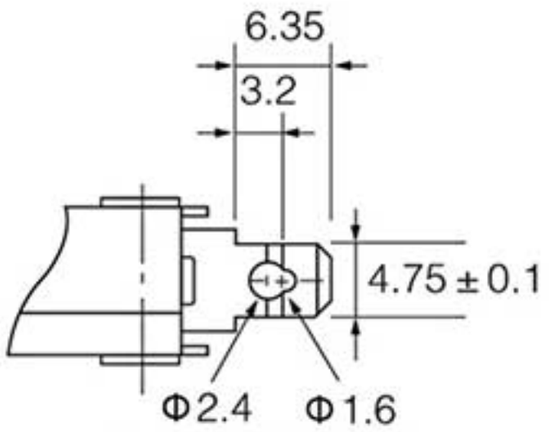
Rated voltage	NV-16	NV-21
AC125V	16A	21A
AC250V		

CHARACTERISTICS

Permissible operating speed	0.1mm-1m/s
Permissible operating frequency	Mechanical:200 operations/min Electrical:30 operations/min
Contact resistance(initial value)	30mΩ max.
Insulation resistance	100MΩ min.(at DC500V)
Dielectric strength	Between terminals of the same polarity: AC1000V, 50/60Hz for 1min
	Between each terminals and non-current carrying metal parts: AC1500V, 50-60Hz fro 1min
	Between current carrying metal parts and ground: AC1500V,50/60Hz for 1min
Endurance	Mechanical: 1,000,000 operations min. Electrical: 50,000 operations min.
Degree of protection	IEC IP40
Degree of protection against electric shock	Class I
Proof tracking index(PTI)	175
Operating ambient	Temperature: -25°C ~ 125°C(with no icing or condensation) Humidity: 60% RH max.
Weight	Approx. 6.4g (pin plunger models)

TERMINAL DIMENSIONS(Unit: mm)

Solder terminals (A)

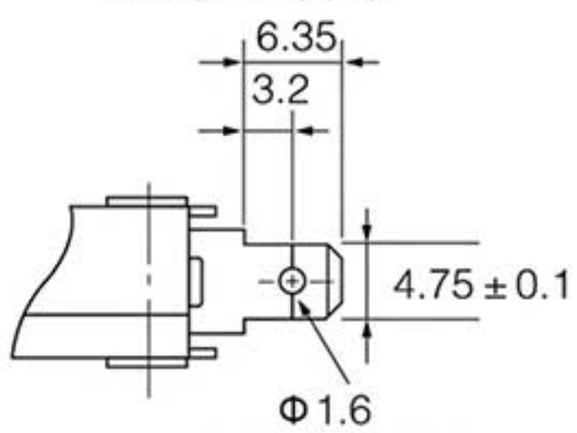


Indicates the length to the center of the 1.6-dia. hole

Quick-connect terminals

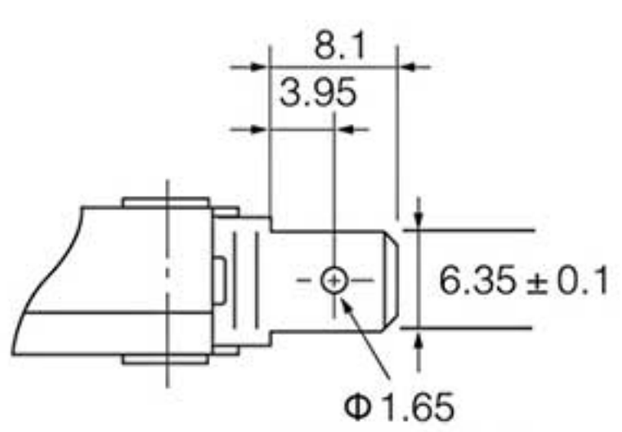
 # 187 (4.8*0.5) (C2)

 # 187 (4.8*0.5) (C3)



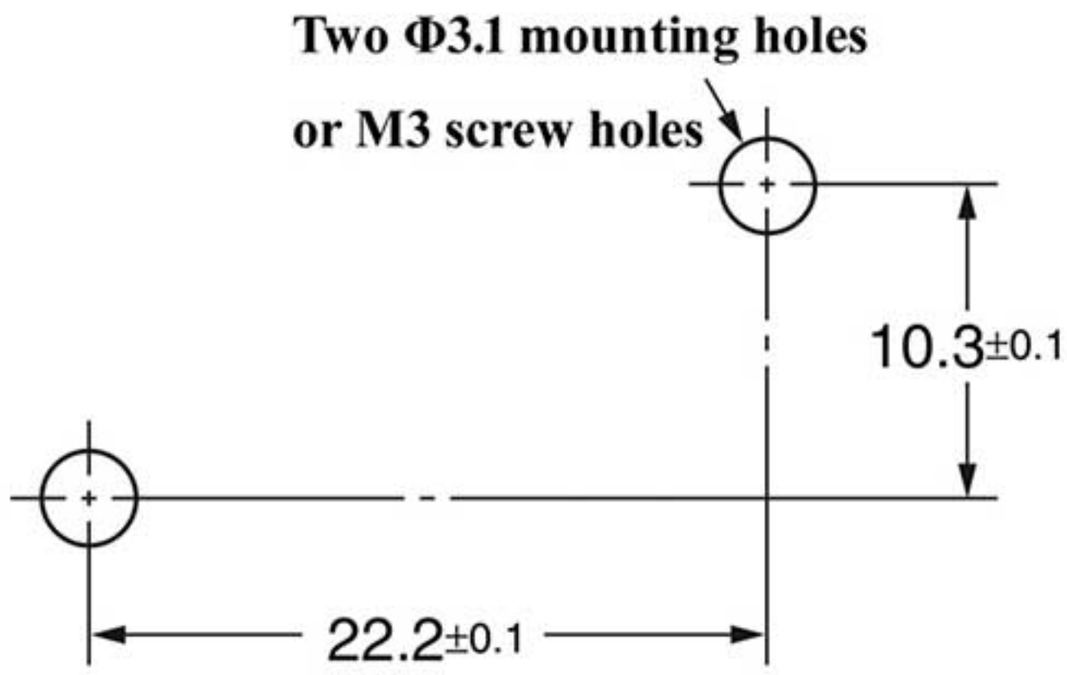
1.6-dia. terminal hole

 # 250 (6.3*0.8) (C)



1.65-dia. terminal hole

MOUNTING HOLES(Unit: mm)



APPEARANCE(DIMENSIONS)/ OPERATION CHARACTERISTICS(Unit: mm)

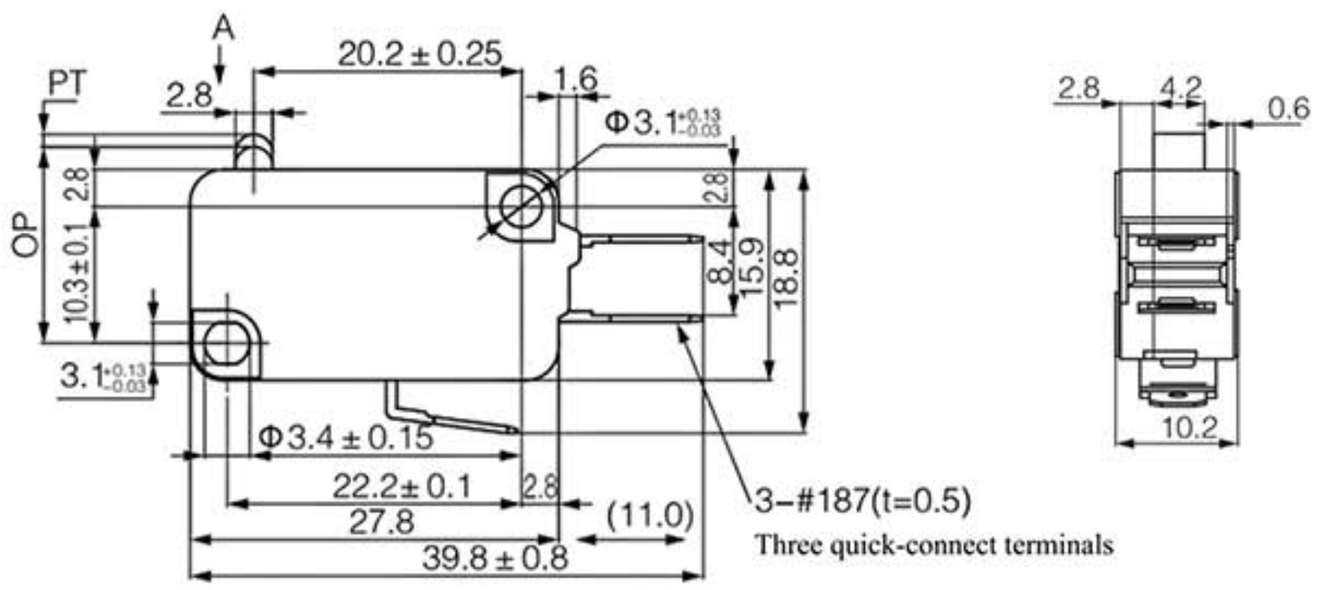
Note: The operating characteristics are for operation in the A direction (↓).

● **Pin plunger**

NV-16

NV-21



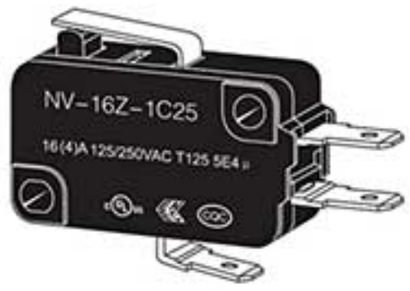


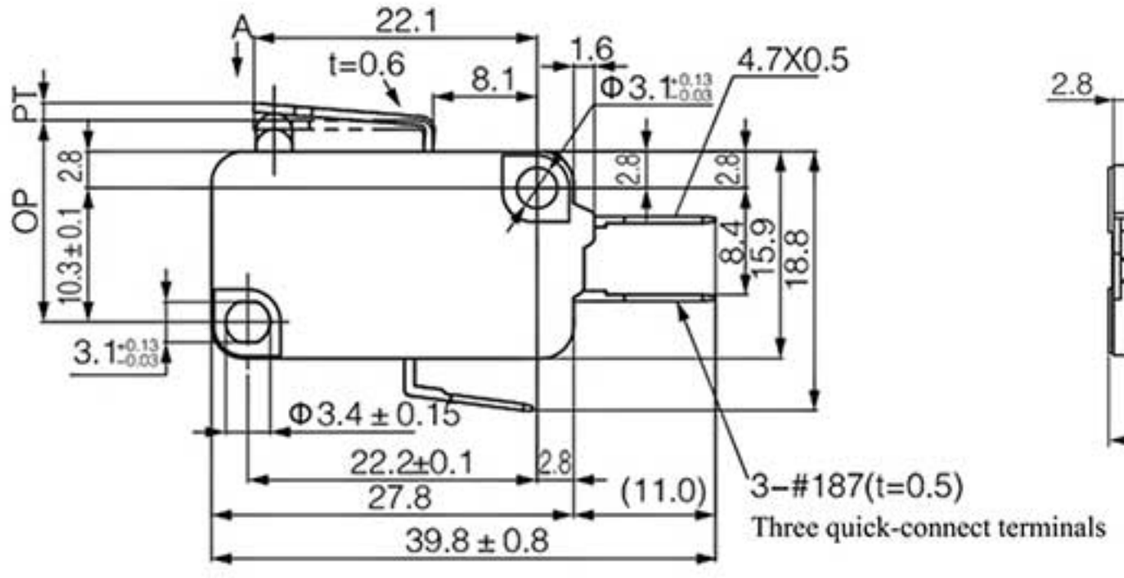
Operation characteristics		NV-16	NV-21
Operating force	OF Max.	1.96N/0.98N	3.92N
Releasing force	RF Min.	0.49N/0.2N	0.78N
Pre-travel	PT Max.	1.2mm	
Over-travel	OT Min.	1.0mm	
Movement differential	MD Max.	0.4mm	
Operating position	OP	14.7±0.4mm	

Short hinge lever

NV-16Z

NV-21Z





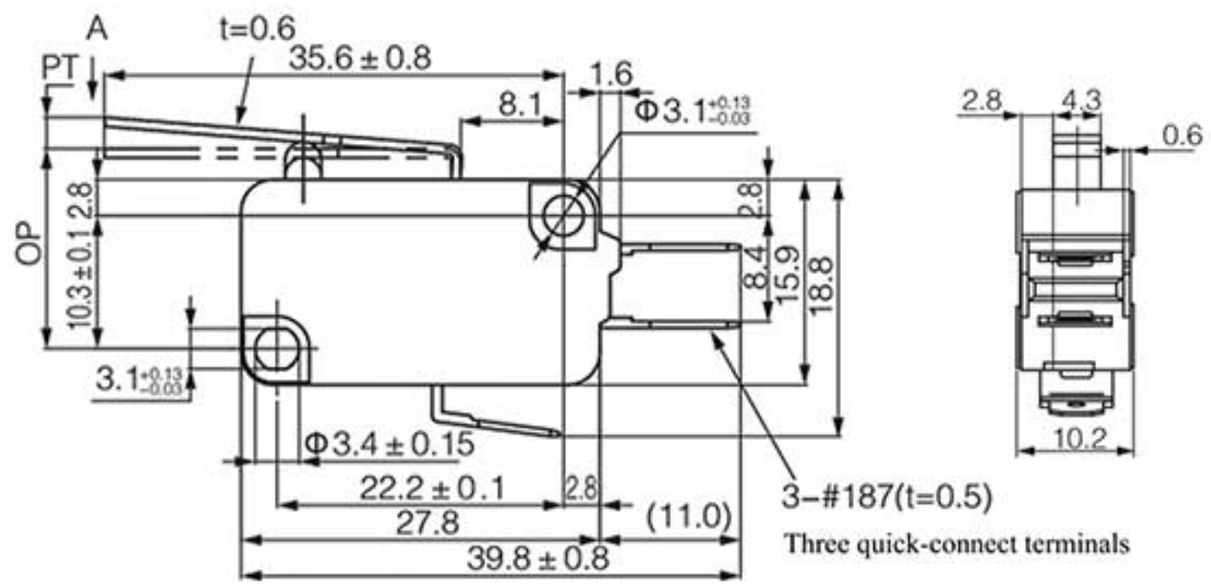
Operation characteristics		NV-16Z	NV-21Z
Operating force	OF Max.	1.96N/0.98N	3.92N
Releasing force	RF Min.	0.49N/0.15N	0.49N
Pre-travel	PT Max.	1.2mm	
Over-travel	OT Min.	0.8mm	
Movement differential	MD Max.	0.6mm	
Operating position	OP	15.2±0.5mm	

Hinge lever

NV-16Z1

NV-21Z1





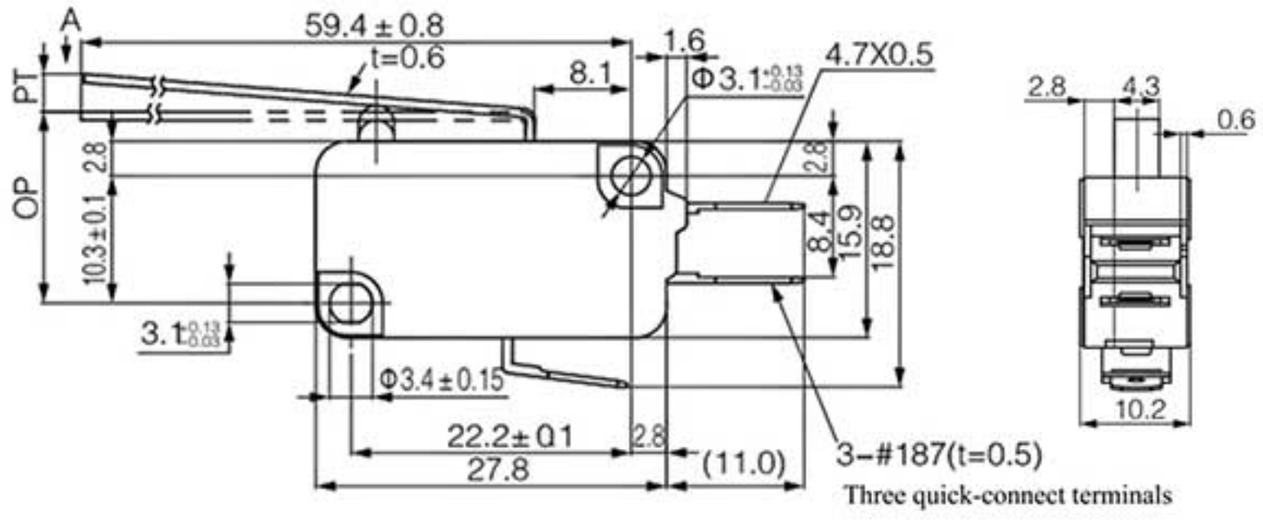
Operation characteristics		NV-16Z1	NV-21Z1
Operating force	OF Max.	1.23N/0.59N	2.45N
Releasing force	RF Min.	0.14N/0.06N	0.25N
Pre-travel	PT Max.	4.0mm	
Over-travel	OT Min.	1.6mm	
Movement differential	MD Max.	1.5mm	
Operating position	OP	15.2±1.2mm	

Long hinge lever

NV-16Z2

NV-21Z2





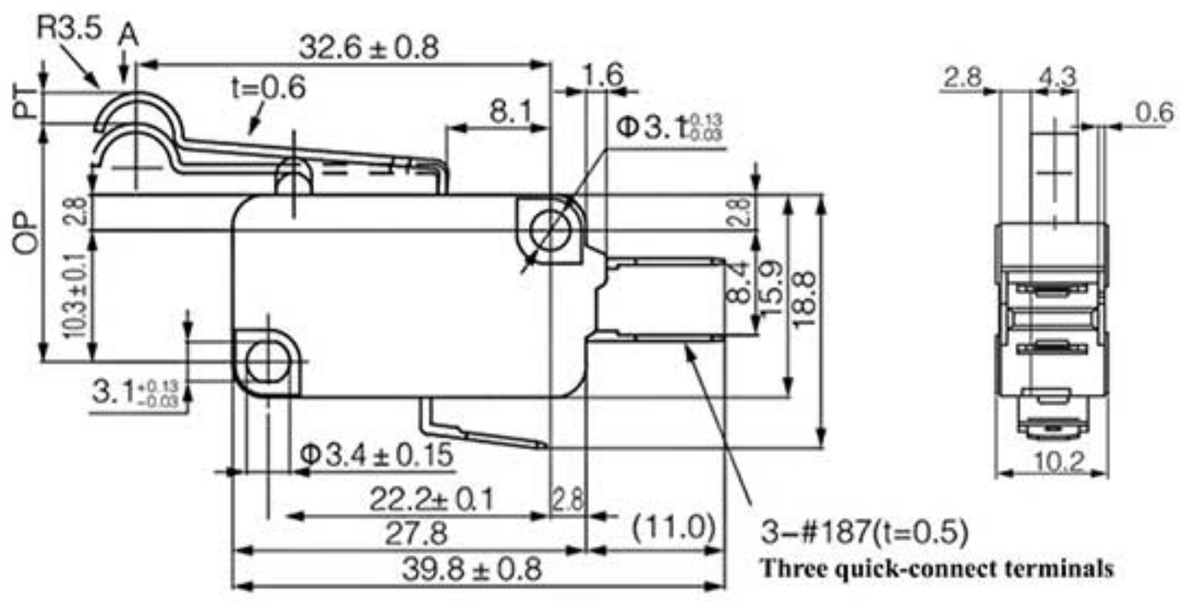
Operation characteristics		NV-16Z2	NV-21Z2
Operating force	OF Max.	0.69N/0.34N	1.27N
Releasing force	RF Min.	0.06N/0.02N	0.12N
Pre-travel	PT Max.	9.0mm	
Over-travel	OT Min.	2.0mm	
Movement differential	MD Max.	2.8mm	
Operating position	OP	15.2+2.6mm. 15.2-3.2mm	

Simulated roller lever

NV-16W

NV-21W





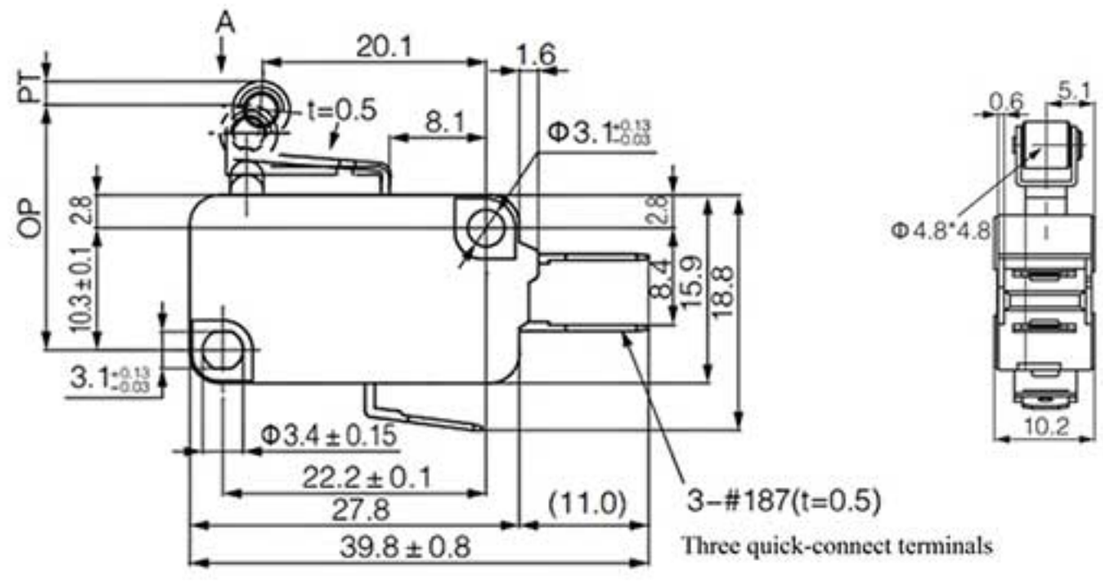
Operation characteristics		NV-16W	NV-21W
Operating force	OF Max.	1.23N/0.59N	2.45N
Releasing force	RF Min.	0.14N/0.06N	0.25N
Pre-travel	PT Max.	4.0mm	
Over-travel	OT Min.	1.6mm	
Movement differential	MD Max.	1.5mm	
Operating position	OP	18.7±1.2mm	

Short hinge roller lever

NV-16G

NV-21G





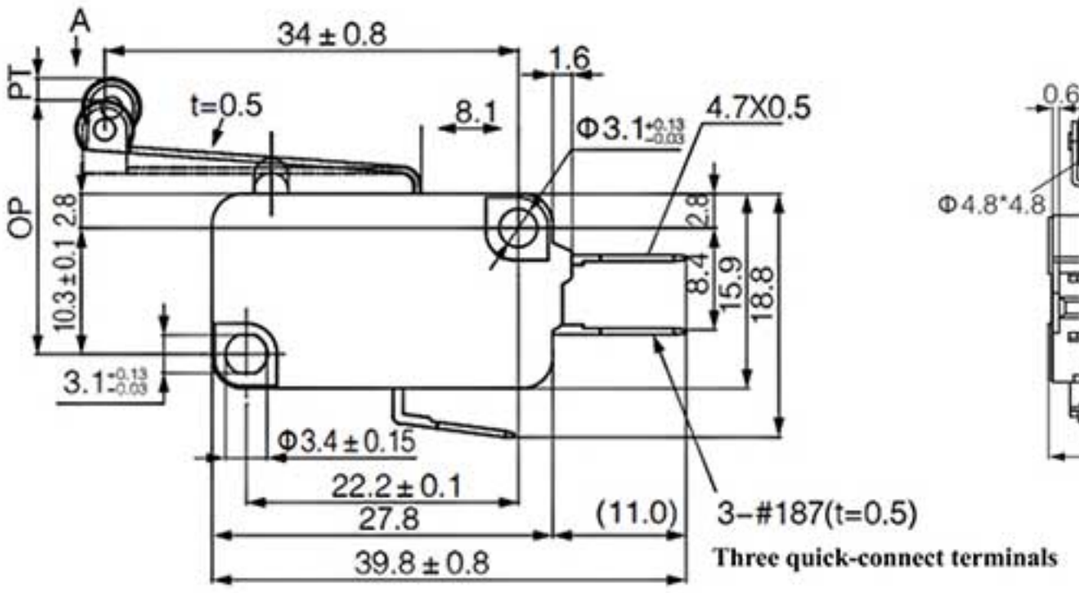
Operation characteristics		NV-16G	NV-21G
Operating force	OF Max.	2.35N/1.18N	4.71N
Releasing force	RF Min.	0.49N/0.15N	0.49N
Pre-travel	PT Max.	1.6mm	
Over-travel	OT Min.	0.8mm	
Movement differential	MD Max.	0.6mm	
Operating position	OP	20.7±0.6mm	

Hinge roller lever

NV-16G1

NV-21G1





Operation characteristics		NV-16G1	NV-21G1
Operating force	OF Max.	1.23N/0.59N	2.45N
Releasing force	RF Min.	0.14N/0.06N	0.25N
Pre-travel	PT Max.	4.0mm	
Over-travel	OT Min.	1.6mm	
Movement differential	MD Max.	1.5mm	
Operating position	OP	20.7±1.2mm	

SWITCHING CAPACITY(Reference value)

Model	Load type	Non inductive load				Inductive load			
		Resistive load		Lamp load		Inductive load		Motor load	
	Voltage	NC	NO	NC	NO	NC	NO	NC	NO
NV-16	AC250V	16A		2A		10A		4A	
	DC8V	16A		4A		10A		6A	
	DC30V	10A		4A		10A		4A	
	DC125V	0.6A		0.1A		0.6A		0.1A	
	DC250V	0.3A		0.05A		0.3A		0.05A	
NV-21	AC250V	21A		3A		12A		6A	
	DC8V	21A		5A		12A		7A	
	DC30V	14A		5A		12A		5A	
	DC125V	0.6A		0.1A		0.6A		0.1A	
	DC250V	0.3A		0.05A		0.3A		0.05A	

PACKING INFORMATION

Items	NV-16-1C25	NV-16Z1-1C25	NV-16G-1C25
Inner packing QTYS(PCS)	100	100	100
Outer packing QTYS(PCS)	2400	2400	2400
Outer packing Dimensions(mm)	535×345×255		
Net weight(KG)	15.26	16.92	18.24
Gross weight(KG)	17.63	19.30	20.61

PRECAUTIONS FOR USE

Mounting

(1) Use M3 mounting screw with plane washers or spring washers to securely mount the switch, use a torque of 0.39-0.59N.m to tighten the screws.

Mount the switch on a flat surface.It may cause deformation of the switch if mounting on an uneven surface,resulting in faulty operation or breakage of the housing.

Make sure the power is in a off state when mounting,dismounting, soldering the switch, or may cause electric shock or overturning.

(2) For pin plunger switch,to set the operation travel as 70%-100% of Over travel(OT) value, or it may shorten the service life.

(3) According to the EN61058-1, the minimum thickness of the insulation layer should be 1.1mm, the minimum distance between terminal and mounting surface should be 1.6mm, if the insulation distance can not be guaranteed, a insulated shield or a insulated board is needed for the switch.

Soldering

(1) Connecting to solder terminals, complete the soldering at the iron tip temperature under 350°C within 5 seconds, and do not apply any external force for 1 minute after soldering.Soldering at an excessively high temperature or soldering for more than 5 seconds, may deteriorate the characteristics of the switch.

(2) Be sure to apply less soldering tin, it may result in contact failure once the soldering tin into the internal part of the switch.

(3) If the PCB terminal models are soldered in the solder bath, it may result in contact failure once the soldering tin into the internal part of the switch.So use manual soldering.

(4) Connecting to Quick-connect terminal(#187,#250),insert the receptacle of quick-connect terminal(#187,#250) straight toward the terminal.Applying excessive external force horizontally or vertically may cause deformation of terminals and may damage the housings.