

ENERVY®

Verified to Energize✓

Industrial Automation

| Limit Switches
| Micro Switches

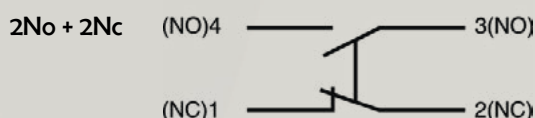
VIRATEC
Trd. & Eng. Co

PRODUCTS CATALOG
2023

Features

- Double circuit type of limit switch
- High mechanical strength, consists of intensive plastic and aluminum cast
- Small size, water-proof and oil-proof construction
- Built-in contact box has double-spring and long mechanical life
- Smooth operation with larger over travel distance
- Conduit design for convenient cabling
- Various actuators for different applications

Contact Formation



Rating

Load	Non-Inductive Load (A)				Inductive Load (A)			
	Resistance Load		Lamp Load		Inductive Load		Motor Load	
Rated Voltage	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	5	5	1.5	0.7	3	3	2	1
250VAC	5	5	1	0.5	3	3	1.5	0.8
8VDC	5	5	3	3	5	4	3	3
14VDC	5	5	3	3	4	4	3	3
30VDC	5	5	3	3	4	4	3	3
125VDC	0.4	0.4						
250VDC	0.2	0.2						
Inrush Current	NC: below 24A, NO: below 12A							

NOTE:

1. Inductive load has a power factor of 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.
3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

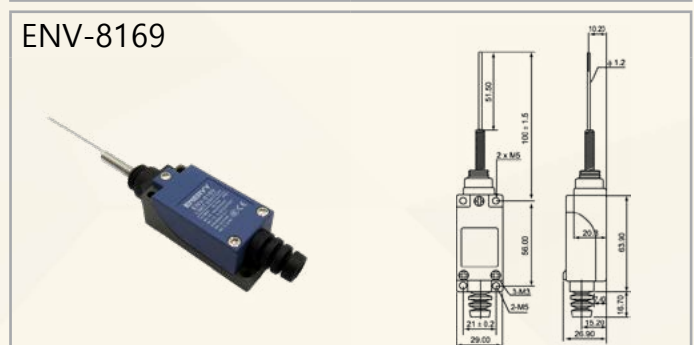
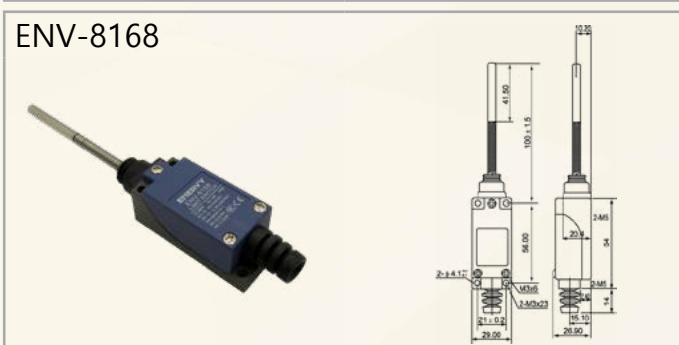
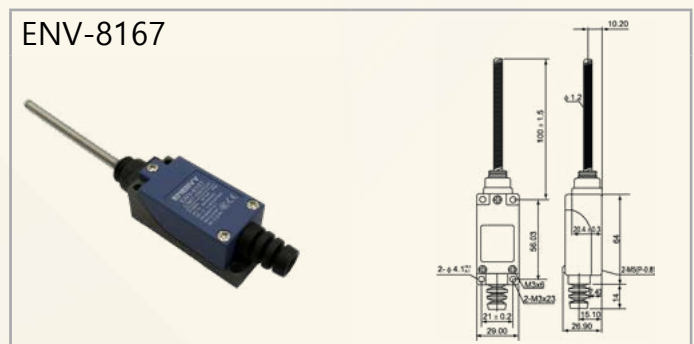
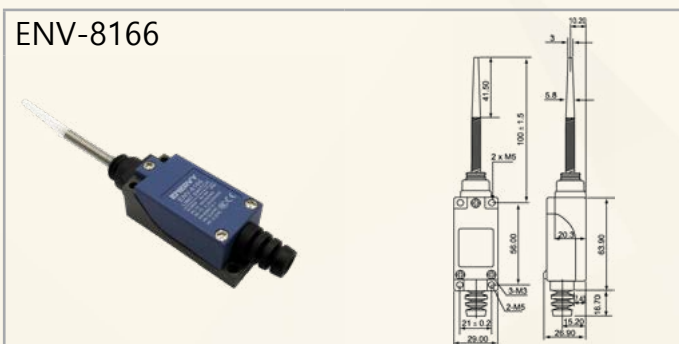
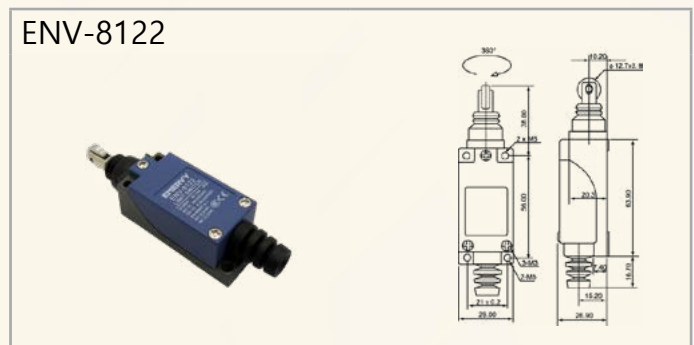
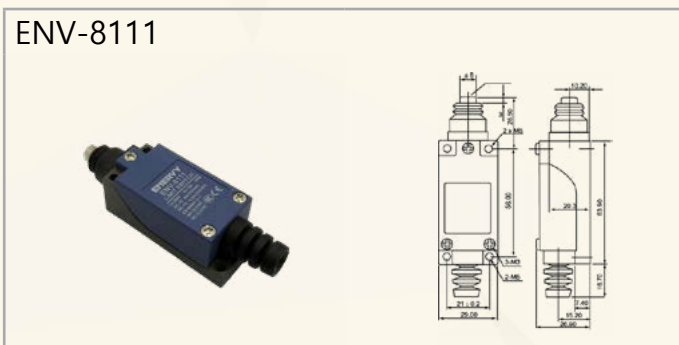
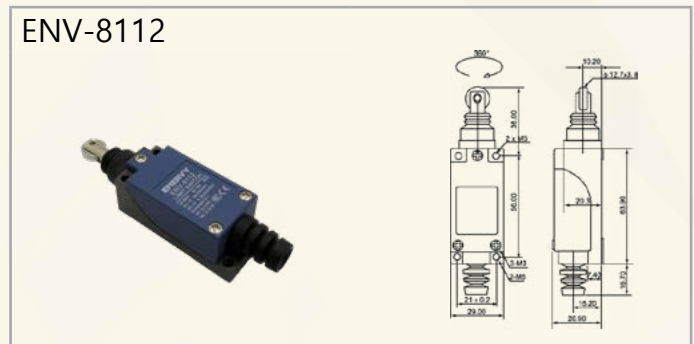
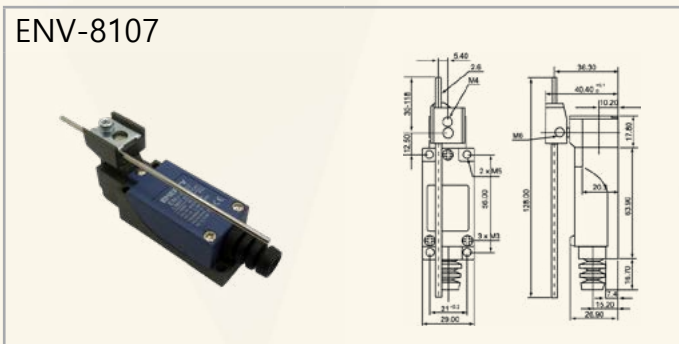
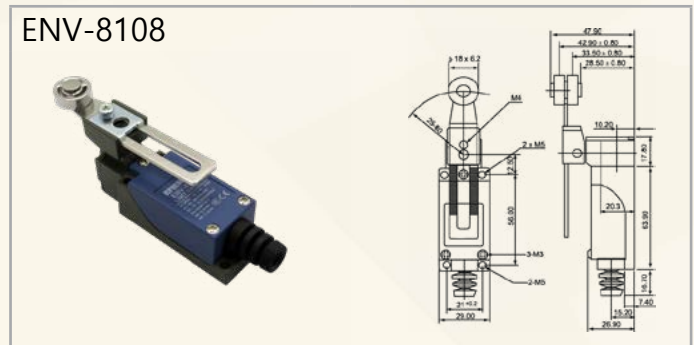
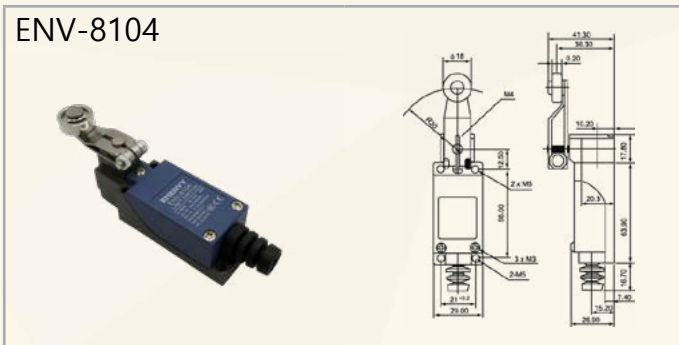
Operating Characteristics

Model	ENV-8104	ENV-8107	ENV-8108	ENV-8111	ENV-8112	ENV-8122	ENV-8166	ENV-8167	ENV-8168	ENV-8169
Operating Force (Max)	5.88N	5.88N	7.84N	9.8N	9.8N	9.8N	0.88N	0.88N	0.88N	0.88N
Release Force (Min)	0.49N	0.69N	0.49N	2.94N	2.94N	2.94N				
Pre Travel (Max)	20°	20°	20°	1.5mm	1.5mm	1.5mm	30mm	30mm	30mm	30mm
Over Travel (Min)	75°	75°	75°	4mm	4mm	4mm				
Movement Diferential (Max)	10°	10°	10°	1.2mm	1.2mm	1.2mm				
Total Travel (Min)	95°	95°	95°	5.5mm	5.5mm	5.5mm				
Operational position				26 ± 0.8mm						

Characteristics

Operation speed	0.5mm-50cm/sec
Operating frequency	Electical: 30 operations/minute
Contact resistance	25mΩ max. (initial value)
Insulation resistance	100mΩ min. (below 500VDC)
Vibration	10-55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec ² (about 100G>S) Malfunction: 300m/Sec ² (about 30G>S)
Ambient Temperature	-10~+65°C (With no icing)
Humidity	<95% RH
Weight	About 195 to 246g
Electrical Life	Above 500000
Degree of protection	IP65

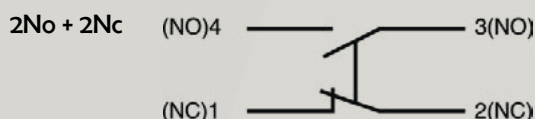
Appearance and Dimension



Features

- Strong Metal Outer Shell
- Swing Arm Max +- 95
- Stainless Steel Idler Wheel, Punch and Spring
- Selective M18x1.5 Cable Gland

Contact Formation



Rating

Load	Non-Inductive Load (A)				Inductive Load (A)			
	Resistance Load		Lamp Load		Inductive Load		Motor Load	
Rated Voltage	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	5	5	1.5	0.7	3	3	2	1
250VAC	5	5	1	0.5	3	3	1.5	0.8
8VDC	5	5	3	3	5	4	3	3
14VDC	5	5	3	3	4	4	3	3
30VDC	5	5	3	3	4	4	3	3
125VDC	0.4	0.4						
250VDC	0.2	0.2						
Inrush Current	NC: below 24A, NO: below 12A							

NOTE:

1. Inductive load has a power factor of 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.
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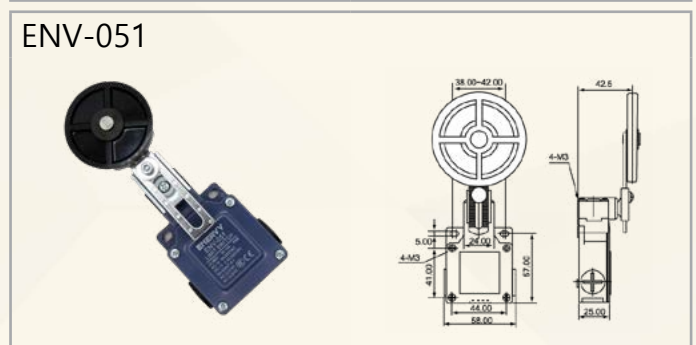
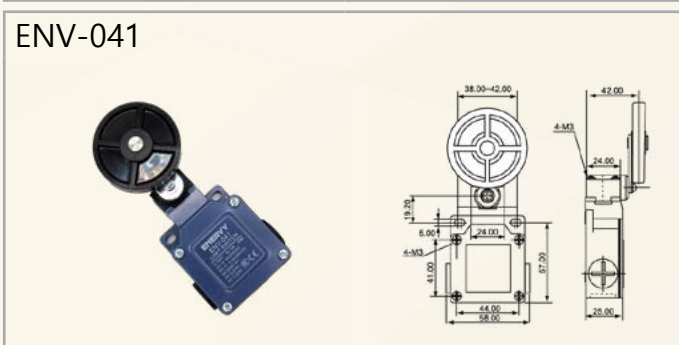
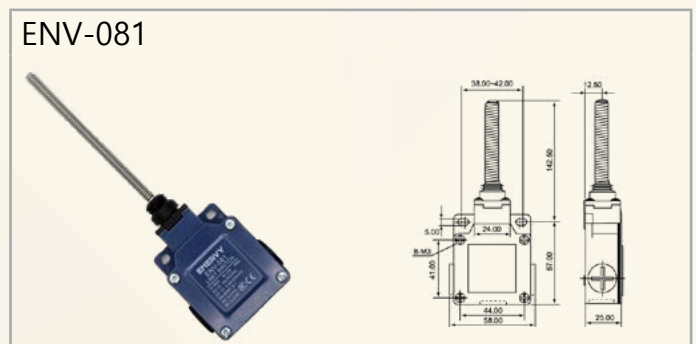
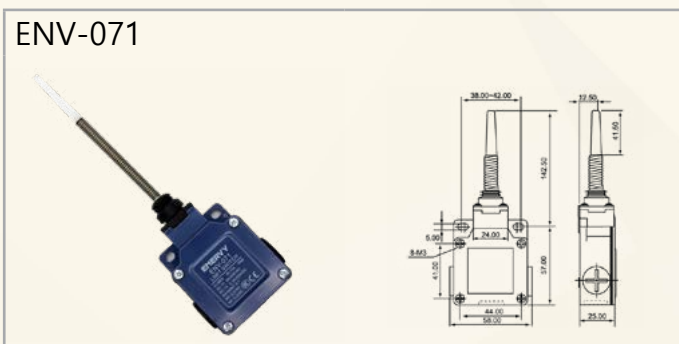
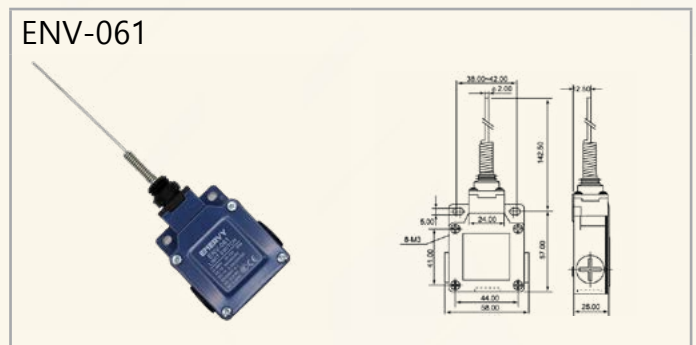
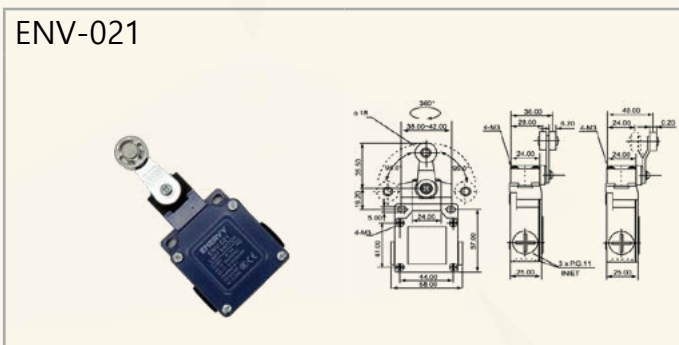
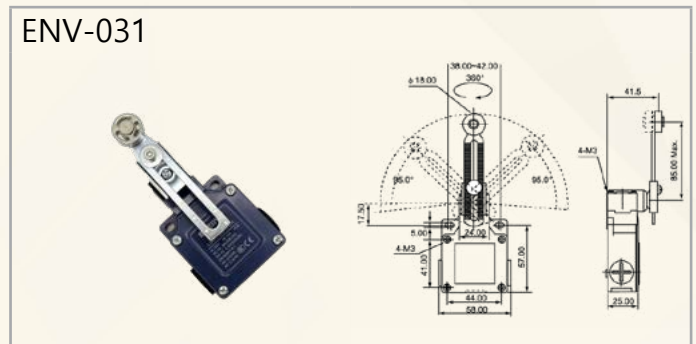
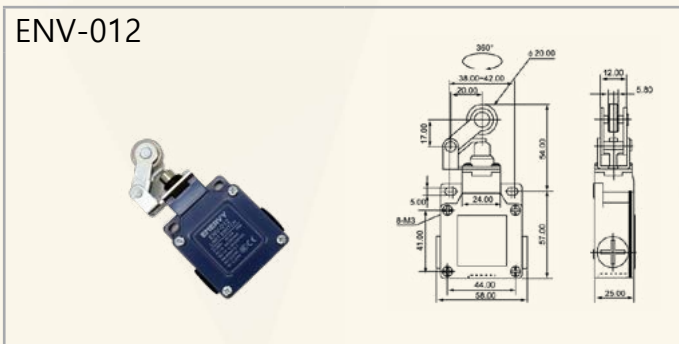
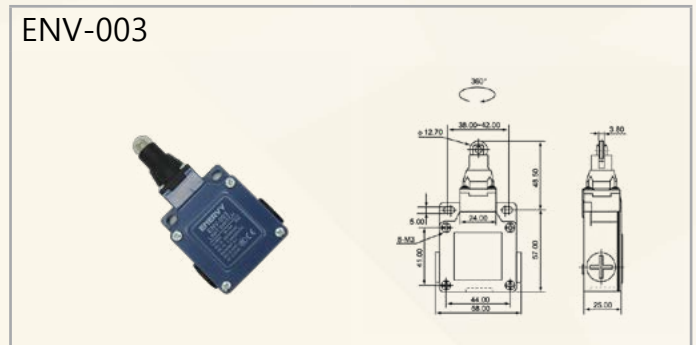
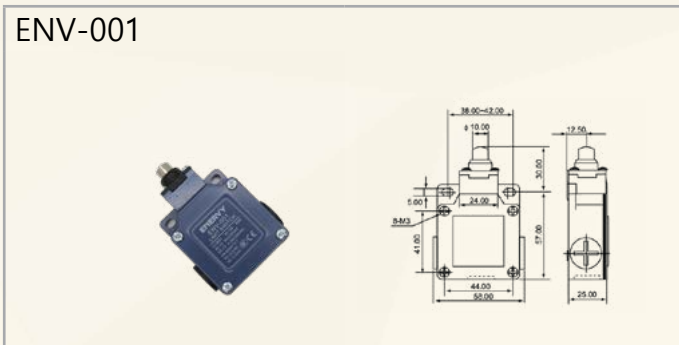
Characteristics

Operation speed	0.5mm-50cm/sec
Operating frequency	Electical: 30 operations/minute
Contact resistance	25mΩ max. (initial value)
Insulation resistance	100mΩ min. (below 500VDC)
Dielectric Strength	1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts
Dielectric Strength	1500VAC, 50/60 Hz for 1 minute between each terminal and ground
Vibration	10-55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec ² (about 100G>S) Malfunction: 300m/Sec ² (about 30G>S)
Ambient Temperature	-10-+65°C (With no icing)
Humidity	<95% RH
Weight	About 195 to 246g
Electrical Life	Above 500000
Degree of protection	IP65

Operating Characteristics

Model	ENV-001	ENV-003	ENV-012	ENV-021	ENV-041	ENV-031	ENV-051	ENV-061	ENV-071	ENV-081
Operating Force (Max)	7.84N	7.84N	7.84N	3.92N	3.92N	3.92N	3.92N	1.47N	1.47N	1.47N
Release Force (Min)	3.92N	3.92N	3.92N	0.98N	0.98N	0.98N	0.98N	0.49N	0.49N	0.49N
Pre Travel	1.8mm	1.8mm	1.8mm	20°	20°	20°	20°	30mm	30mm	30mm
Tripping Position ±10%	2.0mm	2.0mm	2.0mm	22.5°	22.5°	22.5°	22.5°	22.5°	22.5°	22.5°
Movement Diferential (Max)	1.2mm	1.2mm	1.2mm	10°	10°	10°	10°	14°	14°	14°
Over Travel (Min)	4.0mm	4.0mm	4.0mm	75°	75°	75°	75°	20mm	20mm	20mm
Total Travel (Min)	5.8mm	5.8mm	5.8mm	95°	95°	95°	95°	95°	50mm	50mm
Rotary indexing				22.5°	22.5°	22.5°	22.5°			

Appearance and Dimension

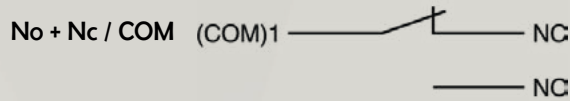


Features

- Ui:380V Ith:15A, working with high repeat accuracy.
- A wide range of variations in contact form for your selection: basic, split-contact, maintained-contact, and adjustable contact gap types.
- Widely working in the situation of elevator control, and Automatic park equipment



Contact Formation



Rating

Load	Non-Inductive Load (A)				Inductive Load (A)				Inrush Current (A)	
	Resistance Load		Lamp Load		Inductive Load		Motor Load			
Rated Voltage	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
125VAC	5	5	1.5	0.7	3	3	2	1		
250VAC	5	5	1	0.5	3	3	1.5	0.8		
8VDC	5	5	3	3	5	4	3	3		
14VDC	5	5	3	3	4	4	3	3	30 Max.	15 Max.
30VDC	5	5	3	3	4	4	3	3		
125VDC	0.4	0.4								
250VDC	0.2	0.2								

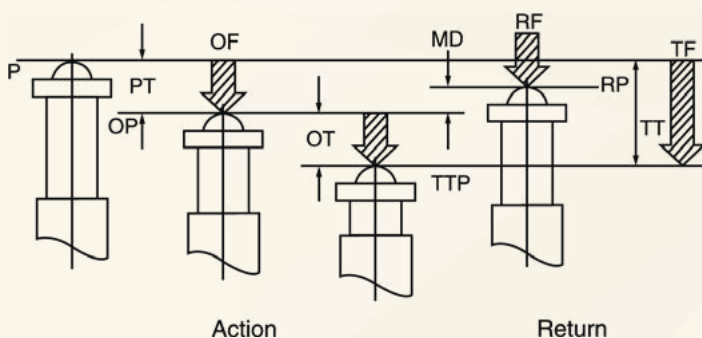
NOTE:

1. Inductive load has a power factor of 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.
3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

Characteristics

Operation speed	0.5mm-50cm/sec
Operating frequency	Electical: 30 operations/minute
Contact resistance	25mΩ max. (initial value)
Insulation resistance	100mΩ min. (below 500VDC)
Dielectric strength	1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity 1500VAC, 50/60 Hz for 1 minute between current-carrying and non- current-carrying metal parts 1500VAC, 50/60 Hz for 1 minute between each terminal and ground
Vibration	10-55Hz,1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec ² (about 100G'S) Malfunction: 300m/Sec ² (about 30G'S)
Ambient Temperature	-15°C to +80°C
Humidity	General purpose type: 35-85% RH , Sealed type: 35-95% RH max.
Weight	About 22 to 58g
Electrical Life	Above 500,000

Operating Characteristics Schema

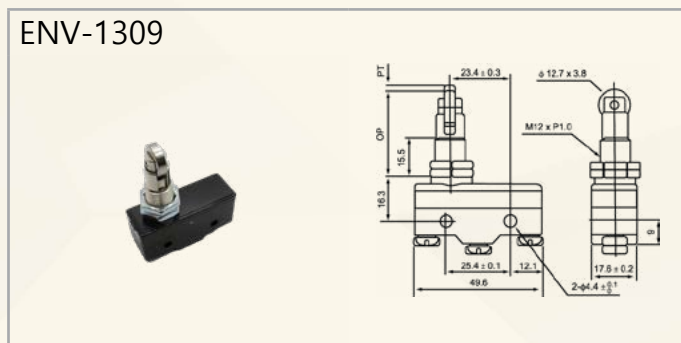
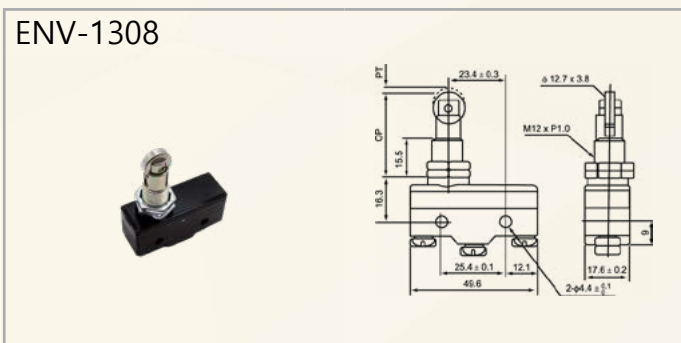
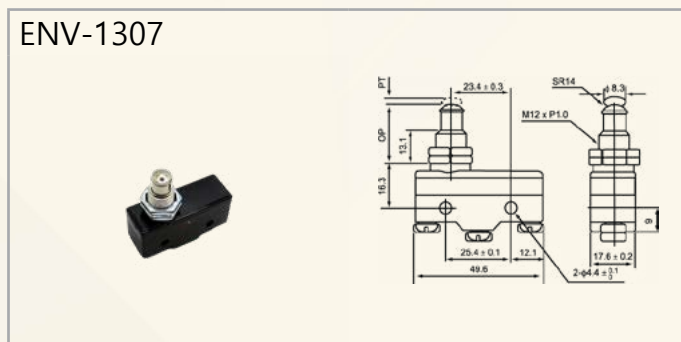
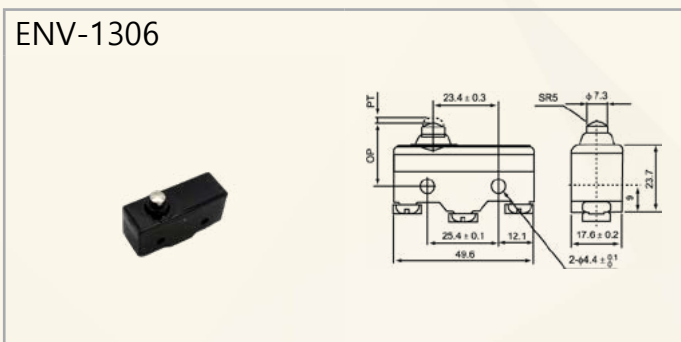
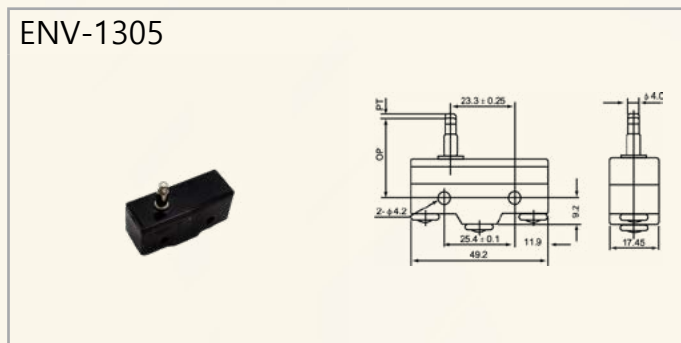
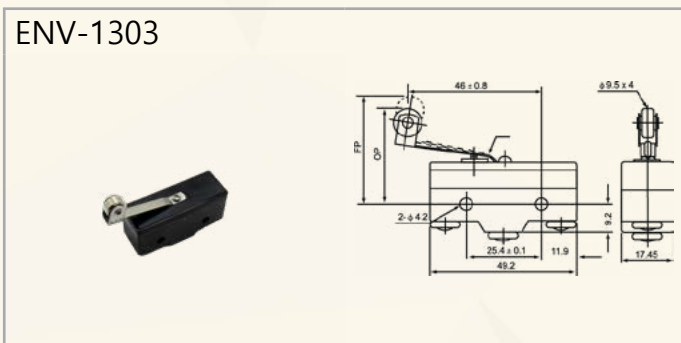
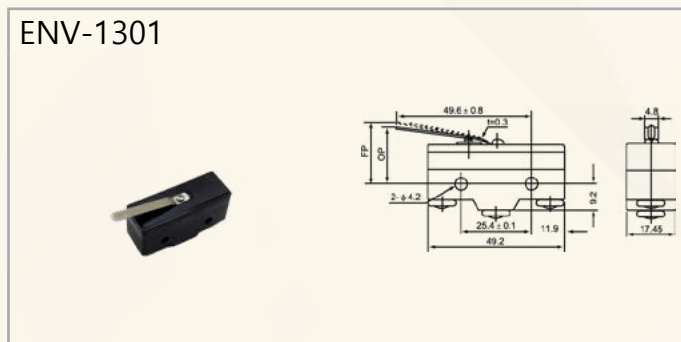
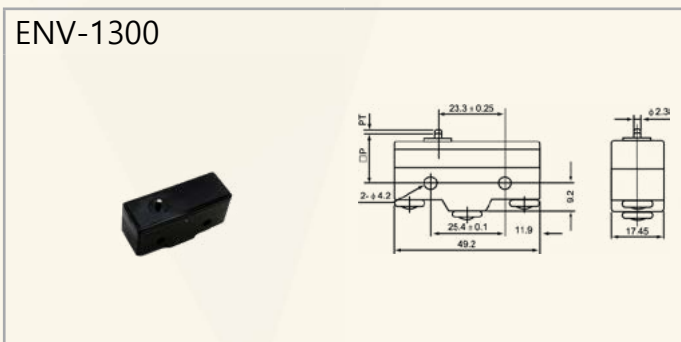


OF	Operating Force
RF	Releasing Force
TF	Total Force
FP	Free Position
OP	Operating Position
RP	Relating Position
PT	Pre Travel
OT	Over Travel
MD	Movement Differential
TT	Total Travel

Operating Characteristics

Model	ENV-1300	ENV-1301	ENV-1303	ENV-1305	ENV-1306	ENV-1307	ENV-1308	ENV-1309
Operating Force (Max)		5.88N	7.84N	9.8N	9.8N	9.8N	0.88N	0.88N
Release Force (Min)	TM-1301	0.69N	0.49N	2.94N	2.94N	2.94N		
Pre Travel (Max)		20°	20°	1.5mm	1.5mm	1.5mm	30mm	30mm
Over Travel (Min)	TM-1303	75°	75°	4mm	4mm	4mm		
Movement Diferential (Max)		10°	10°	1.2mm	1.2mm	1.2mm		
Operational position				26 ± 0.8mm				

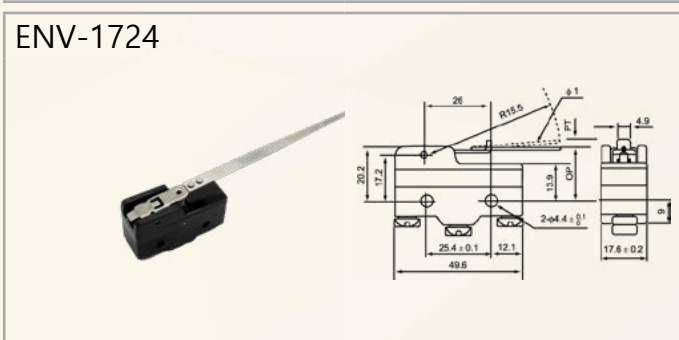
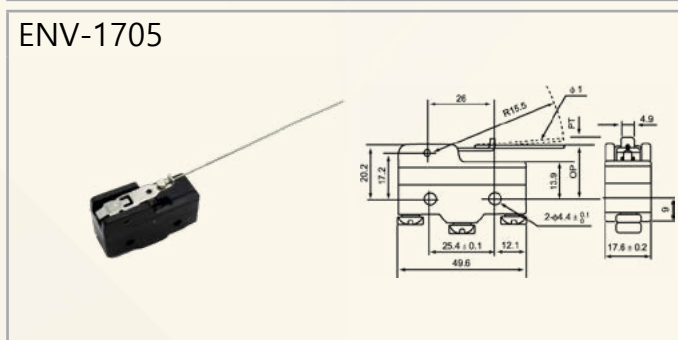
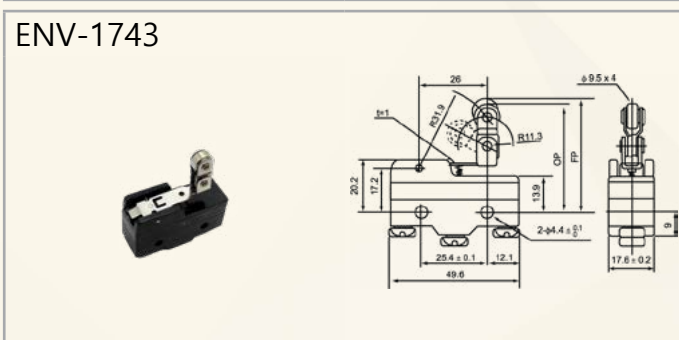
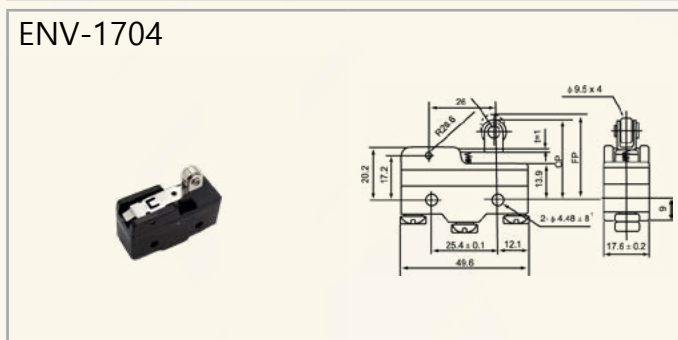
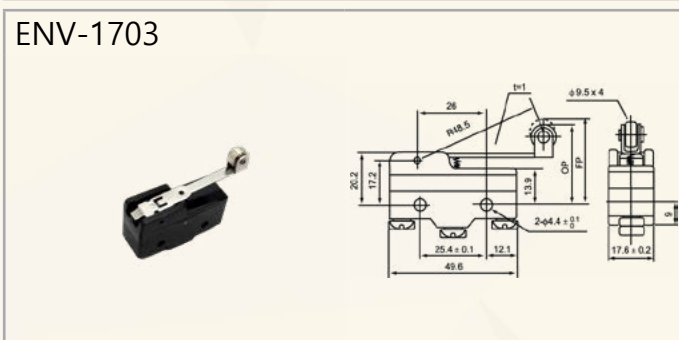
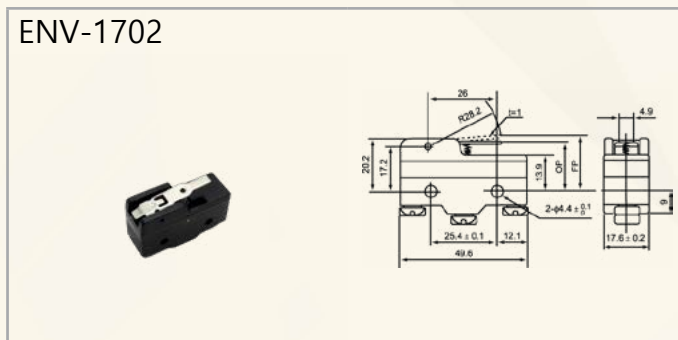
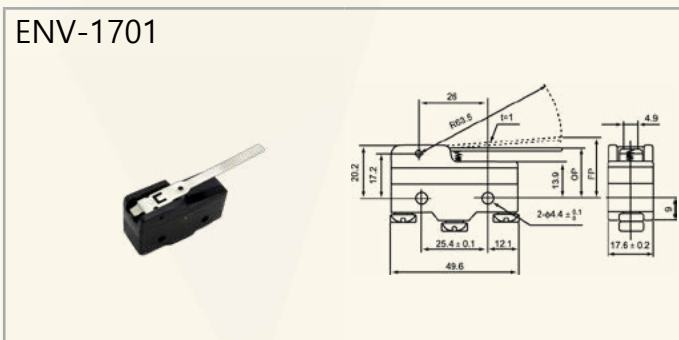
Appearance and Dimension



Operating Characteristics

Model	ENV-1701	ENV-1702	ENV-1703	ENV-1704	ENV-1705	ENV-1724	ENV-1743
Operating Force (Max)		5.88N	7.84N	9.8N	9.8N	9.8N	0.88N
Release Force (Min)	TM-1301	0.69N	0.49N	2.94N	2.94N	2.94N	
Pre Travel (Max)		20°	20°	1.5mm	1.5mm	1.5mm	30mm
Over Travel (Min)	TM-1303	75°	75°	4mm	4mm	4mm	
Movement Diferential (Max)		10°	10°	1.2mm	1.2mm	1.2mm	
Operational position				26 ± 0.8mm			

Appearance and Dimension



Features

- Double circuit type of limit switch
- High mechanical strength, consists of intensive plastic and aluminum cast
- Small size, water-proof and oil-proof construction
- Built-in contact box has double-spring and long mechanical life
- Smooth operation with larger over travel distance
- Conduit design for convenient cabling
- Various actuators for different applications

Contact Formation

No + Nc / COM



Rating

Load	Non-Inductive Load (A)				Inductive Load (A)				Inrush Current (A)	
	Resistance Load		Lamp Load		Inductive Load		Motor Load			
Rated Voltage	NC	NO	NC	NO	NC	NO	NC	NO	NC	NO
250VAC	16		2		10		3		40 Max.	
8VDC	16		4		10		6			
30VDC	10		4		10		4			
125VDC	0.6		0.1		0.6		0.1			
250VDC	0.3		0.05		0.3		0.05			

NOTE:

1. Inductive load has a power factor of 0.4 min.(AC) and a time constant of 7 msec.max.(DC).
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3. Product with spring, its usable range of operating part is within one third of the whole spring length from the front end of spring.

Characteristics

Operation speed	0.5mm-50cm/sec
Operating frequency	Electical: 30 operations/minute
Contact resistance	25mΩ max. (initial value)
Insulation resistance	100mΩ min. (below 500VDC)
Dielectric strength	1000VAC, 50/60 Hz for 1 minute between terminals of the same polarity
	1500VAC, 50/60 Hz for 1 minute between current-carrying and non-current-carrying metal parts
Vibration	1500VAC, 50/60 Hz for 1 minute between each terminal and ground
	10-55Hz, 1.5mm double amplitude
Shock	Mechanical durable: 1,000m/Sec ² (about 100G'S) Malfunction: 300m/Sec ² (about 30G'S)
Ambient Temperature	-15°C to +80°C
Humidity	General purpose type: 35-85% RH., Sealed type: 35-95% RH max.
Weight	About 22 to 58g
Electrical Life	Above 500,000

Operating Characteristics

Model	ENV-100D	ENV-101D	ENV-102D	ENV-103D	ENV-104D	ENV-105D	ENV-106D
Operating Force (Max)	1.96N	1.96N	1.23N	0.69N	1.23N	2.35N	1.23N
Release Force (Min)	0.49N	0.49N	0.14N	0.06N	0.14N	0.49N	0.14N
Pre Travel (Max)	1.2mm	1.6mm	4.0mm	9.0mm	4.0mm	1.6mm	4.0mm
Over Travel (Min)	1.0mm	0.8mm	1.6mm	2.0mm	1.6mm	0.8mm	1.6mm
Movement Differential (Max)	0.4mm	0.6mm	1.5mm	2.8mm	1.5mm	0.6mm	1.5mm
Operational position	14.7±0.4mm	15.2±0.5mm	15.2±1.2mm	15.2+2.6mm 15.2-3.2mm	18.7±1.2mm	20.7±0.6mm	20.7±1.2mm

Appearance and Dimension

