

## ENCLOSED LIMIT SWITCHES SN9 SERIES

### Features

- Compact and rugged Aluminum housing
- Large wiring enclosure
- High precision switch
- High repeatability of switching point
- Long service life
- Large breaking power
- Conduit opening available in:  
M20: suffix -C  
1/2NPT: suffix -A

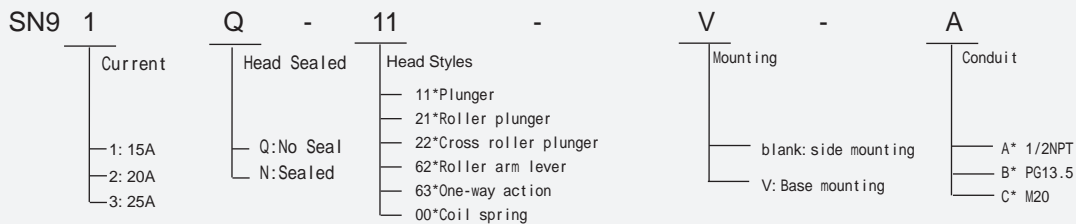
### Definitions of Operating Characteristics

OF	Operating Force
RF	Releasing Force
OT	Overtravel
TT	Total Travel
PT	Pretravel
MD	Movement Differential
OP	Operating Position
PO	Travel to Positive Opening

### Specifications

Operating Speed	0.02mm-0.5m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 20 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ (initial value)
Rated Current/Voltage (UL file E240199)	SN91: 15A, 125/250/480VAC; 0.75HP/125VAC or 1.5HP/250VAC SN92: 20A, 125/250/480VAC; 1.5HP/125VAC or 2HP/250VAC SN93: 25A, 125/250/480VAC; 1.5HP/125VAC or 2HP/250VAC
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x 10 <sup>7</sup> (operations) Electrically 5 x 10 <sup>5</sup> (operations)
Operating Temperature	-25~+80°C (-13~176°F)
Humidity	< 95%RH
Degree of Protection	IP65

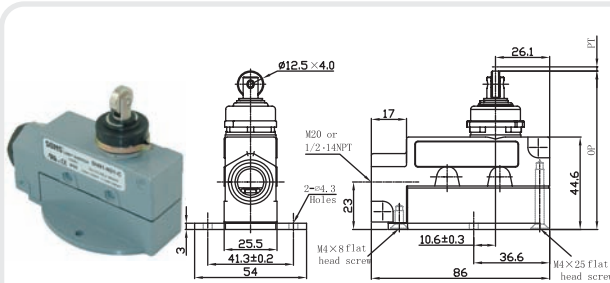
### Selection Guide:



### Dimensions Unit: mm

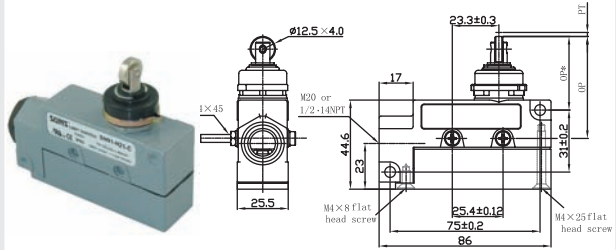
<p><b>Operating Characteristics</b></p> <p><b>SN91-N11-V:</b></p> <p>OF Max 7.85N RF Min 2.35N PT Max 2mm OT Min 5mm MD Max 0.1mm OP 71.4±0.8mm</p>	<p><b>Operating Characteristics</b></p> <p><b>SN92(3)-N11-V:</b></p> <p>OF Max 10.53N RF Min 4.01N PT Max 2.8mm OT Min 5mm MD Max 0.4mm OP 71.4±0.8mm</p>
<p><b>Operating Characteristics</b></p> <p><b>SN91-N11:</b></p> <p>OF Max 7.85N RF Min 2.35N PT Max 2mm OT Min 5mm MD Max 0.1mm OP 45.8±0.8mm OP* 31.9±0.8mm</p>	<p><b>Operating Characteristics</b></p> <p><b>SN92(3)-N11:</b></p> <p>OF Max 10.53N RF Min 4.01N PT Max 2.8mm OT Min 5mm MD Max 0.4mm OP 45.8±0.8mm OP* 31.9±0.8mm</p>

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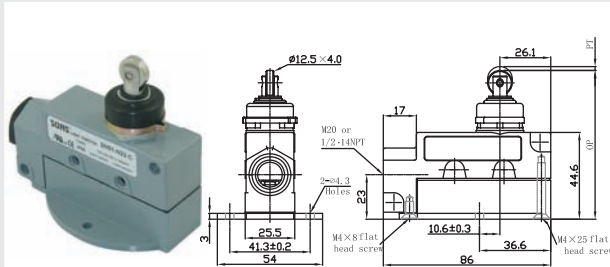
### Operating Characteristics

SN91-N21-V:	OF Max 4.9N	RF Min 0.98N	PT Max 1mm	OT Min 3.5mm	MD Max 0.12mm	OP 75.2 ± 0.8mm
SN92(3)-N21-V:	OF Max 7.58N	RF Min 2.64N	PT Max 1.7mm	OT Min 3.5mm	MD Max 0.48mm	OP 75.2 ± 0.8mm



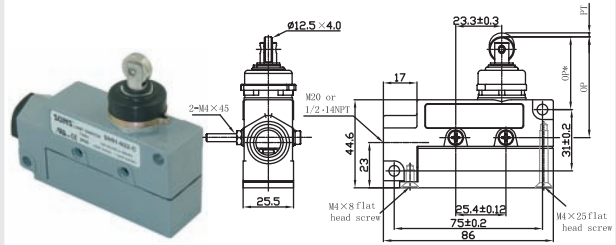
### Operating Characteristics

SN91-N21:	OF Max 4.9N	RF Min 0.98N	PT Max 1mm	OT Min 3.5mm	MD Max 0.12mm	OP 49.7 ± 0.8mm
SN92(3)-N21:	OF Max 7.58N	RF Min 2.64N	PT Max 1.7mm	OT Min 3.5mm	MD Max 0.48mm	OP 49.7 ± 0.8mm



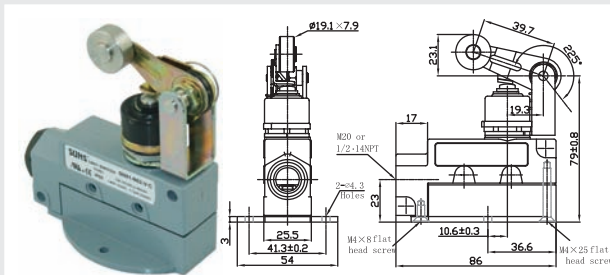
### Operating Characteristics

SN91-N22-V:	OF Max 4.9N	RF Min 0.98N	PT Max 1mm	OT Min 3.5mm	MD Max 0.12mm	OP 75.2 ± 0.8mm
SN92(3)-N22-V:	OF Max 7.58N	RF Min 2.64N	PT Max 1.7mm	OT Min 3.5mm	MD Max 0.48mm	OP 75.2 ± 0.8mm



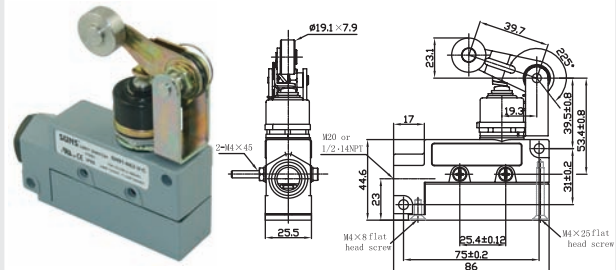
### Operating Characteristics

SN91-N22:	OF Max 4.9N	RF Min 0.98N	PT Max 1mm	OT Min 3.5mm	MD Max 0.12mm	OP 49.7 ± 0.8mm
SN92(3)-N22:	OF Max 7.58N	RF Min 2.64N	PT Max 1.7mm	OT Min 3.5mm	MD Max 0.48mm	OP 49.7 ± 0.8mm



### Operating Characteristics

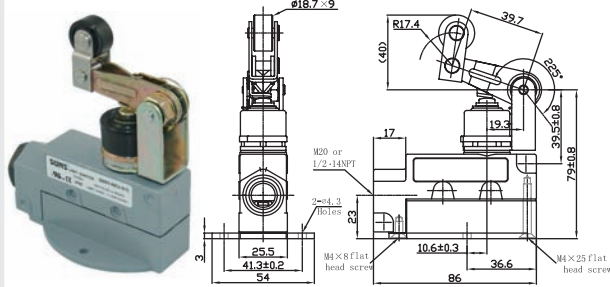
SN91-N62-V:	OF Max 6.28N	RF Min 2.26N	PT Max 5mm	OT Min 6mm	MD Max 0.4mm
SN92(3)-N62-V:	OF Max 8.96N	RF Min 4.12N	PT Max 5.9mm	OT Min 6mm	MD Max 1.6mm



### Operating Characteristics

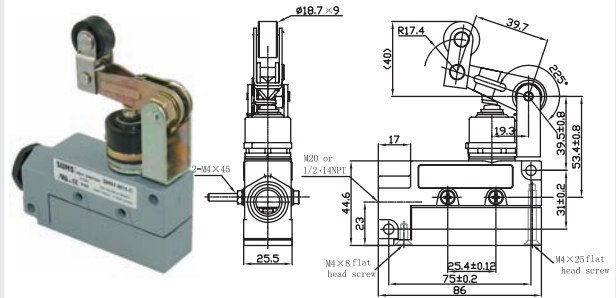
SN91-N62:	OF Max 6.28N	RF Min 2.26N	PT Max 5mm	OT Min 6mm	MD Max 0.4mm
SN92(3)-N62:	OF Max 8.96N	RF Min 4.12N	PT Max 5.9mm	OT Min 6mm	MD Max 1.6mm

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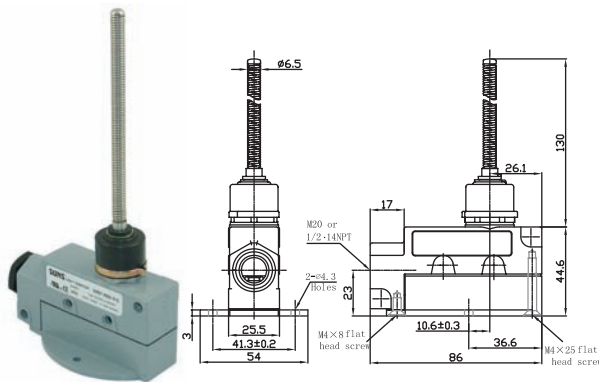
### Operating Characteristics

	OF Max 6.28N		OF Max 8.96N
SN91-N63-V:	RF Min 2.26N	SN92(3)-N63-V:	RF Min 4.12N
	PT Max 5mm		PT Max 5.9mm
	OT Min 6mm		OT Min 6mm
	MD Max 0.4mm		MD Max 1.6mm



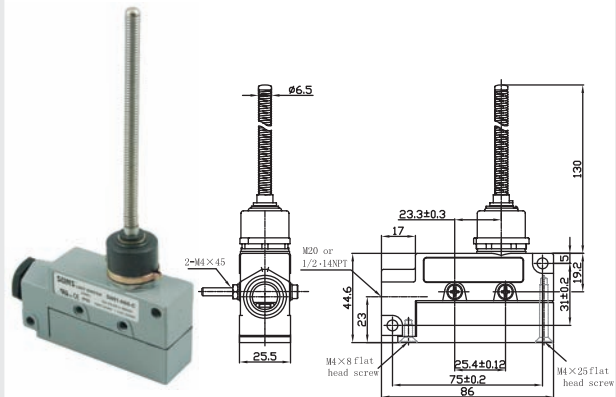
### Operating Characteristics

	OF Max 6.28N		OF Max 8.96N
SN91-N63:	RF Min 2.26N	SN92(3)-N63:	RF Min 4.12N
	PT Max 5mm		PT Max 5.9mm
	OT Min 6mm		OT Min 6mm
	MD Max 0.4mm		MD Max 1.6mm



### Operating Characteristics

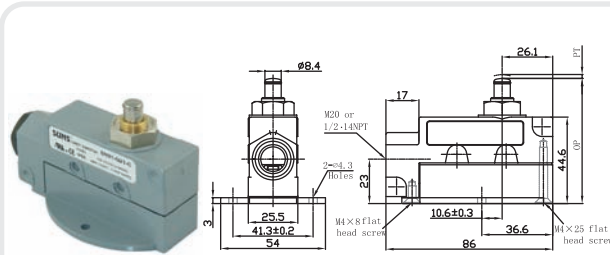
SN91-N00-V:	OF Max 1.47N	SN92(3)-N00-V:	OF Max 2.62N
	PT Max $15^\circ$		PT Max $15^\circ$



### Operating Characteristics

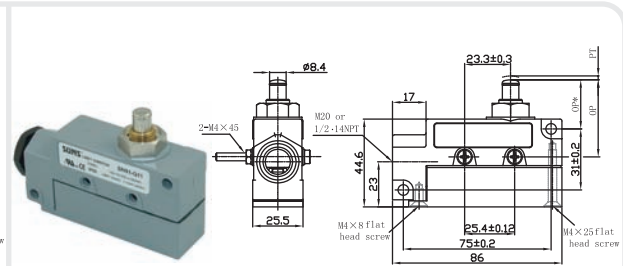
SN91-N00:	OF Max 1.47N	SN92(3)-N00:	OF Max 2.62N
	PT Max $15^\circ$		PT Max $15^\circ$

## ENCLOSED LIMIT SWITCHES SN9 SERIES



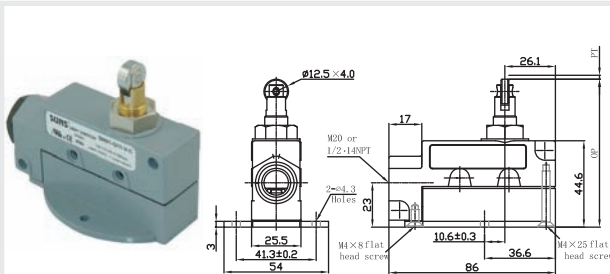
### Operating Characteristics

<b>SN91-Q11-V:</b>	OF Max	2.45~3.43N	<b>SN92(3)-Q11-V:</b>	OF Max	3.89~6.11N
	RF Min	1.12N		RF Min	2.78N
	PT Max	0.4mm		PT Max	1.2mm
	OT Min	5.5mm		OT Min	5.5mm
	MD Max	0.05mm		MD Max	0.05~0.2mm
	OP	63.7±0.8mm		OP	63.7±0.8mm



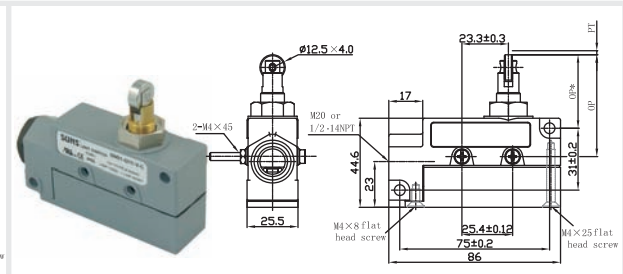
### Operating Characteristics

<b>SN91-Q11:</b>	OF Max	2.45~3.43N	<b>SN92(3)-Q11:</b>	OF Max	3.89~6.11N
	RF Min	1.12N		RF Min	2.78N
	PT Max	0.4mm		PT Max	1.2mm
	OT Min	5.5mm		OT Min	5.5mm
	MD Max	0.05mm		MD Max	0.05~0.2mm
	OP	38.2±0.8mm		OP	38.2±0.8mm
OP*	24.2±0.8mm	OP*	24.2±0.8mm		



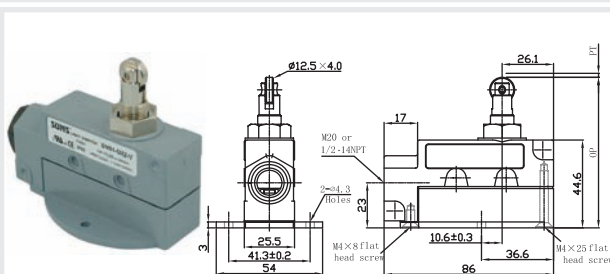
### Operating Characteristics

<b>SN91-Q21-V:</b>	OF Max	2.45~3.43N	<b>SN92(3)-Q21-V:</b>	OF Max	3.89~6.11N
	RF Min	1.12N		RF Min	2.78N
	PT Max	0.5mm		PT Max	1.2mm
	OT Min	3.6mm		OT Min	3.6mm
	MD Max	0.05mm		MD Max	0.05~0.2mm
	OP	75.2±0.8mm		OP	75.2±0.8mm



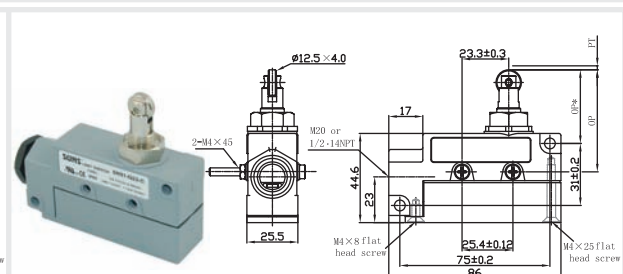
### Operating Characteristics

<b>SN91-Q21:</b>	OF Max	2.45~3.43N	<b>SN92(3)-Q21:</b>	OF Max	3.89~6.11N
	RF Min	1.12N		RF Min	2.78N
	PT Max	0.5mm		PT Max	1.2mm
	OT Min	3.6mm		OT Min	3.6mm
	MD Max	0.05mm		MD Max	0.05~0.2mm
	OP	49.7±0.8mm		OP	49.7±0.8mm
OP*	35.7±0.8mm	OP*	35.7±0.8mm		



### Operating Characteristics

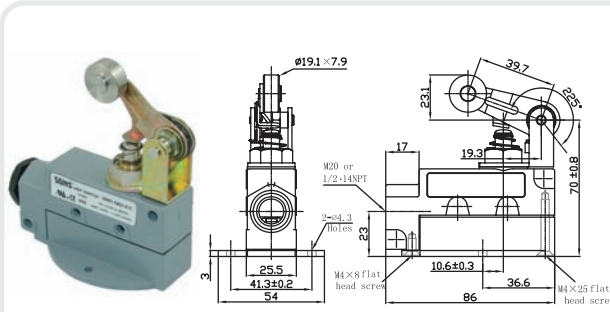
<b>SN91-Q22-V:</b>	OF Max	2.45~3.43N	<b>SN92(3)-Q22-V:</b>	OF Max	3.89~6.11N
	RF Min	1.12N		RF Min	2.78N
	PT Max	0.5mm		PT Max	1.2mm
	OT Min	3.5mm		OT Min	3.5mm
	MD Max	0.05mm		MD Max	0.05~0.2mm
	OP	75.2±0.8mm		OP	75.2±0.8mm



### Operating Characteristics

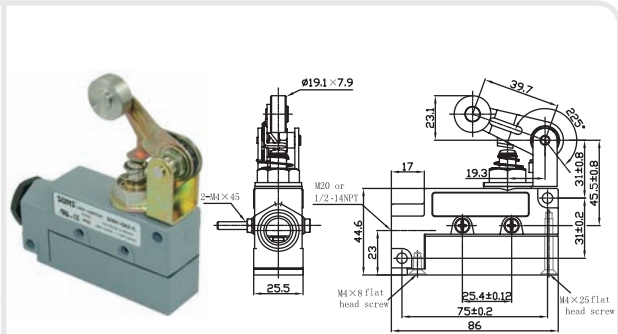
<b>SN91-Q22:</b>	OF Max	2.45~3.43N	<b>SN92(3)-Q22:</b>	OF Max	3.89~6.11N
	RF Min	1.12N		RF Min	2.78N
	PT Max	0.5mm		PT Max	1.2mm
	OT Min	3.5mm		OT Min	3.5mm
	MD Max	0.05mm		MD Max	0.05~0.2mm
	OP	49.7±1mm		OP	49.7±1mm
OP*	35.7±0.8mm	OP*	35.7±0.8mm		

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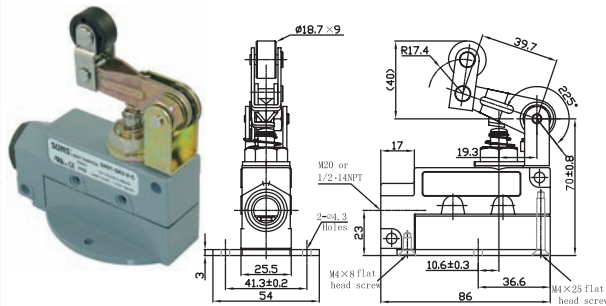
### Operating Characteristics

SN91-Q62-V:	OF Max 5.59N	RF Min 1.67N	PT Max 4mm	OT Min 6mm	MD Max 0.4mm
SN92(3)-Q62-V:	OF Max 8.27N	RF Min 3.33N	PT Max 4.9mm	OT Min 6mm	MD Max 1.6mm



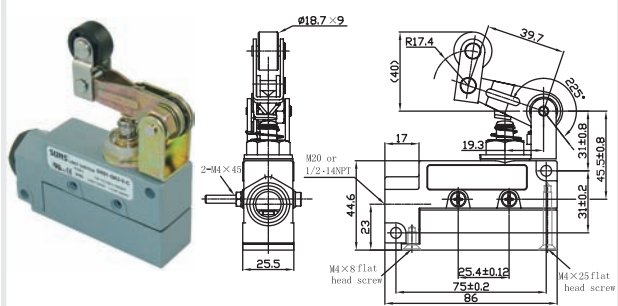
### Operating Characteristics

SN91-Q62:	OF Max 5.59N	RF Min 1.67N	PT Max 4mm	OT Min 6mm	MD Max 0.4mm
SN92(3)-Q62:	OF Max 8.27N	RF Min 3.33N	PT Max 4.9mm	OT Min 6mm	MD Max 1.6mm



### Operating Characteristics

SN91-Q63-V:	OF Max 5.59N	RF Min 1.67N	PT Max 4mm	OT Min 6mm	MD Max 0.4mm
SN92(3)-Q63-V:	OF Max 8.27N	RF Min 3.33N	PT Max 4.9mm	OT Min 6mm	MD Max 1.6mm



### Operating Characteristics

SN91-Q63:	OF Max 5.59N	RF Min 1.67N	PT Max 4mm	OT Min 6mm	MD Max 0.4mm
SN92(3)-Q63:	OF Max 8.27N	RF Min 3.33N	PT Max 4.9mm	OT Min 6mm	MD Max 1.6mm