SUNS International, LLC is the leading manufacturer of high quality industrial limit switches, micro switches and proximity switch. SUNS offers complete ranges of control components which are reliable, available, competitive, compliant with all standards. Our manufacturing facilities are ISO9001:2000 certified and all of our products are UL, CSA and CE approved.

At SUNS, we are committed to delivering world class products and services efficiently and effectively to our customers and their total satisfaction is our goal.

PRODUCT INDEX

GLOBAL STYLE LIMIT SWITCHES

Available contact blocks and travel diagrams

ON OFF

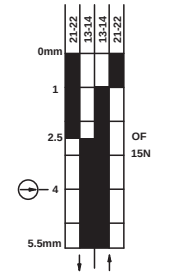
Plunger type
11,12,31,32 styles

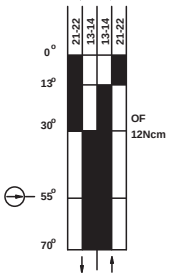
Side rotary type
04, 07, 08, 14, 18 Styles

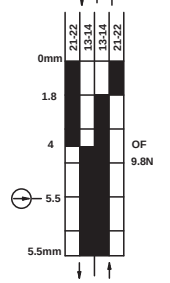
62, 63 styles

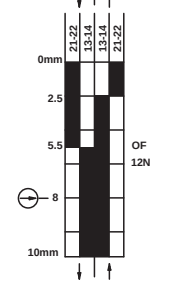
72, 73 styles

SP
1NO/1NC
Snap Action

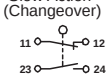


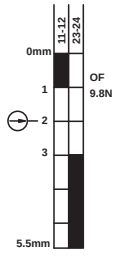


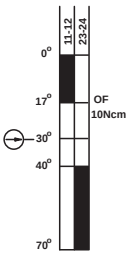


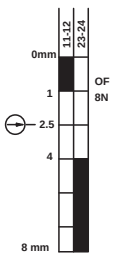


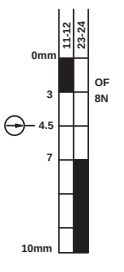
SL
1NO/1NC
Slow Action
(Changeover)



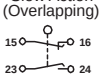


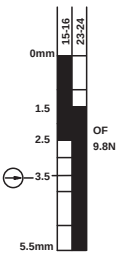


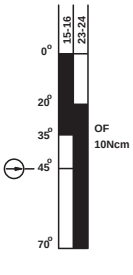


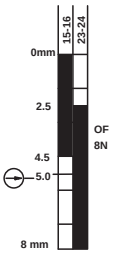


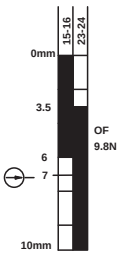
SL1
1NO/1NC
Slow Action
(Overlapping)



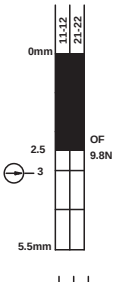


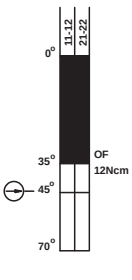


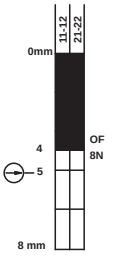


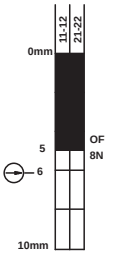


SL2
2NC
Slow Action

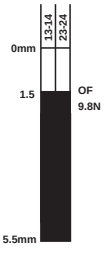


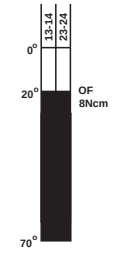


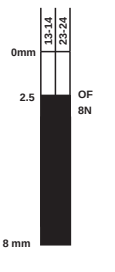


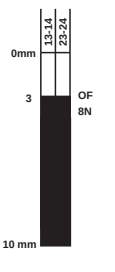


SL3
2NO
Slow Action

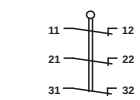


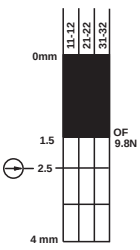




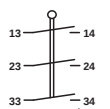


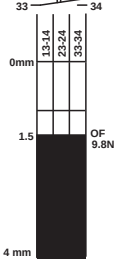
SL4
3NC
Slow Action



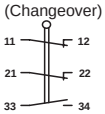


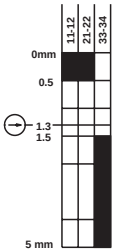
SL5
3NO
Slow Action



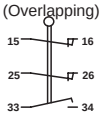


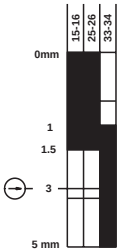
SL6
2NC/1NO
Slow Action
(Changeover)



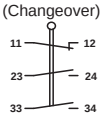


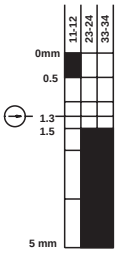
SL7
2NC/1NO
Slow Action
(Overlapping)



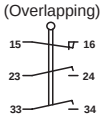


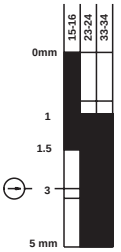
SL8
1NC/2NO
Slow Action
(Changeover)





SL9
1NC/2NO
Slow Action
(Overlapping)





GLOBAL STYLE LIMIT SWITCHES (PLASTIC BODIED EN50047 TYPE)

SND4 SERIES (SINGLE CONDUIT ENTRY)

SND2 SERIES (TWO CONDUIT ENTRIES)

Features

- Glass fiber reinforced plastic body with metal heads
- Easily interchangable contact block
- Fine adjustment of switching point via adjusting screw
- Galvanically separated contacts
- Screw terminals with self-lifting clamps for easy wiring
- Positive Opening of NC contacts
- 4 x 90° actuator positions
- Cable entry available: M 20, PG13.5 and 1/2"NPT
- Conform to EN 50047 standard

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	0.05mm-2m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Current/Voltage	10A/600V AC (EN60947-5-1)
	AC15 A600 / DC13 Q300
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-25~+80°C (-13~176°F)
Humidity	< 95%RH
Weight	150-250g
Degree of Protectiion	IP65

Selection Guide:

SND41 — Body Styles
- SND41: single conduit
- SND21: 2 conduits

04 — Head Styles

SP — Contact Block
- SP: 1NO/1NC Snap action
- SL: 1NO/1NC Slow Action changeover
- SL1: 1NO/1NC Slow Action Overlapping
- SL2: 2NC Slow Action
- SL3: 2NO Slow Action
- SL4: 3NC Slow Action
- SL5: 3NO Slow Action
- SL6: 2NC/1NO Slow Action changeover
- SL7: 2NC/1NO Slow Action Overlapping
- SL8: 2NO/1NC Slow Action changeover
- SL9: 2NO/1NC Slow Action Overlapping

C — Conduits
- A: 1/2"NPT
- B: PG13.5
- C: M20
- B1: PG11
- C1: M16

- — Roller material
- Blank: Metal
- P: Nylon Roller

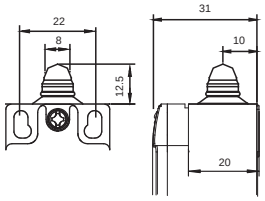
R — Roller material
- Blank
- R: with Reset

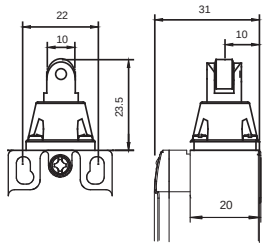
GLOBAL STYLE LIMIT SWITCHES (PLASTIC BODIED EN50047 TYPE)

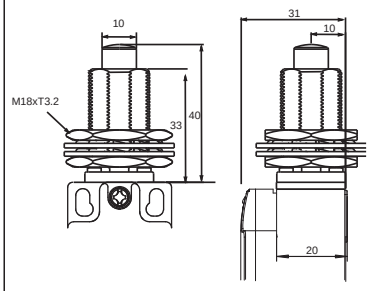
SND4 series
(single conduit)

SND2 series
(two conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16





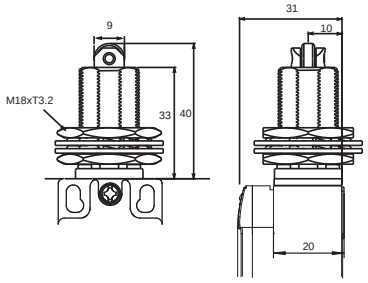


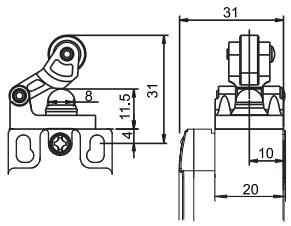
Contact block		Zb								
SP	⊕	snap action	SND4111-SP- _ SND2111-SP- _	1NO+1NC		SND4112-SP- _ SND2112-SP- _	1NO+1NC		SND4131-SP- _ SND2131-SP- _	1NO+1NC	
SL	⊕	slow action	SND4111-SL- _ SND2111-SL- _	1NO+1NC	BBM	SND4112-SL- _ SND2112-SL- _	1NO+1NC	BBM	SND4131-SL- _ SND2131-SL- _	1NO+1NC	BBM
SL1	⊕	slow action	SND4111-SL1- _ SND2111-SL1- _	1NO+1NC	MBB	SND4112-SL1- _ SND2112-SL1- _	1NO+1NC	MBB	SND4131-SL1- _ SND2131-SL1- _	1NO+1NC	MBB
SL2	⊕	slow action	SND4111-SL2- _ SND2111-SL2- _	2NC		SND4112-SL2- _ SND2112-SL2- _	2NC		SND4131-SL2- _ SND2131-SL2- _	2NC	
SL3		slow action	SND4111-SL3- _ SND2111-SL3- _	2NO		SND4112-SL3- _ SND2112-SL3- _	2NO		SND4131-SL3- _ SND2131-SL3- _	2NO	
SL4	⊕	slow action	SND4111-SL4- _ SND2111-SL4- _	3NC		SND4112-SL4- _ SND2112-SL4- _	3NC		SND4131-SL4- _ SND2131-SL4- _	3NC	
SL5		slow action	SND4111-SL5- _ SND2111-SL5- _	3NO		SND4112-SL5- _ SND2112-SL5- _	3NO		SND4131-SL5- _ SND2131-SL5- _	3NO	
SL6	⊕	slow action	SND4111-SL6- _ SND2111-SL6- _	2NC+1NO	BBM	SND4112-SL6- _ SND2112-SL6- _	2NC+1NO	BBM	SND4131-SL6- _ SND2131-SL6- _	2NC+1NO	BBM
SL7	⊕	slow action	SND4111-SL7- _ SND2111-SL7- _	2NC+1NO	MBB	SND4112-SL7- _ SND2112-SL7-	2NC+1NO	MBB	SND4131-SL7- _ SND2131-SL7-	2NC+1NO	MBB
SL8	⊕	slow action	SND4111-SL8- _ SND2111-SL8- _	1NC+2NO	BBM	SND4112-SL8- _ SND2112-SL8- _	1NC+2NO	BBM	SND4131-SL8- _ SND2131-SL8- _	1NC+2NO	BBM
SL9	⊕	slow action	SND4111-SL9- _ SND2111-SL9- _	1NC+2NO	MBB	SND4112-SL9- _ SND2112-SL9- _	1NC+2NO	MBB	SND4131-SL9- _ SND2131-SL9- _	1NC+2NO	MBB

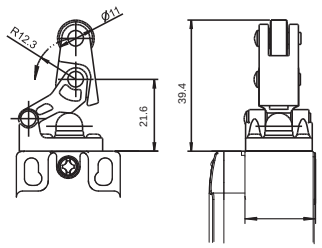
SND4 series
(single conduit)

SND2 series
(two conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16







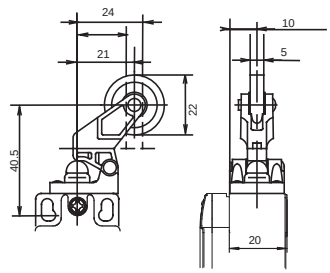
Contact block		Zb								
SP	⊕	snap action	SND4132-SP- _ SND2132-SP- _	1NO+1NC		SND4162-SP- _ SND2162-SP- _	1NO+1NC		SND4163-SP- _ SND2163-SP- _	1NO+1NC	
SL	⊕	slow action	SND4132-SL- _ SND2132-SL- _	1NO+1NC	BBM	SND4162-SL- _ SND2162-SL- _	1NO+1NC	BBM	SND4163-SL- _ SND2163-SL- _	1NO+1NC	BBM
SL1	⊕	slow action	SND4132-SL1- _ SND2132-SL1- _	1NO+1NC	MBB	SND4162-SL1- _ SND2162-SL1- _	1NO+1NC	MBB	SND4163-SL1- _ SND2163-SL1- _	1NO+1NC	MBB
SL2	⊕	slow action	SND4132-SL2- _ SND2132-SL2- _	2NC		SND4162-SL2- _ SND2162-SL2- _	2NC		SND4163-SL2- _ SND2163-SL2- _	2NC	
SL3		slow action	SND4132-SL3- _ SND2132-SL3- _	2NO		SND4162-SL3- _ SND2162-SL3- _	2NO		SND4163-SL3- _ SND2163-SL3- _	2NO	
SL4	⊕	slow action	SND4132-SL4- _ SND2132-SL4- _	3NC		SND4162-SL4- _ SND2162-SL4- _	3NC		SND4163-SL4- _ SND2163-SL4- _	3NC	
SL5		slow action	SND4132-SL5- _ SND2132-SL5- _	3NO		SND4162-SL5- _ SND2162-SL5- _	3NO		SND4163-SL5- _ SND2163-SL5- _	3NO	
SL6	⊕	slow action	SND4132-SL6- _ SND2132-SL6- _	2NC+1NO	BBM	SND4162-SL6- _ SND2162-SL6- _	2NC+1NO	BBM	SND4163-SL6- _ SND2163-SL6- _	2NC+1NO	BBM
SL7	⊕	slow action	SND4132-SL7- _ SND2132-SL7- _	2NC+1NO	MBB	SND4162-SL7- _ SND2162-SL7-	2NC+1NO	MBB	SND4163-SL7- _ SND2163-SL7-	2NC+1NO	MBB
SL8	⊕	slow action	SND4132-SL8- _ SND2132-SL8- _	1NC+2NO	BBM	SND4162-SL8- _ SND2162-SL8- _	1NC+2NO	BBM	SND4163-SL8- _ SND2163-SL8- _	1NC+2NO	BBM
SL9	⊕	slow action	SND4132-SL9- _ SND2132-SL9- _	1NC+2NO	MBB	SND4162-SL9- _ SND2162-SL9- _	1NC+2NO	MBB	SND4163-SL9- _ SND2163-SL9- _	1NC+2NO	MBB

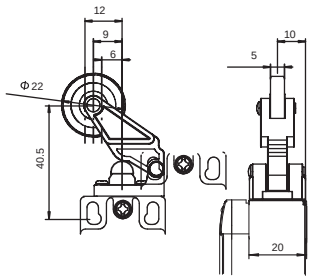
GLOBAL STYLE LIMIT SWITCHES (PLASTIC BODIED EN50047 TYPE)

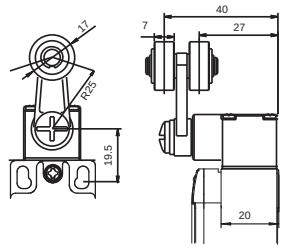
SND4 series
(single conduit)

SND2 series
(two conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16





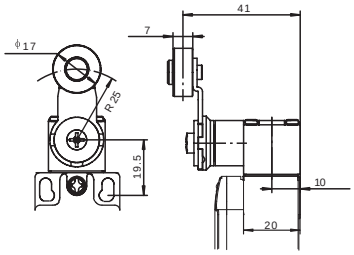


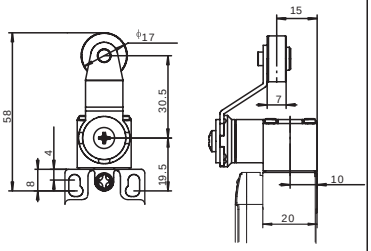
Contact block		Zb						
SP	⊕	snap action	SND4172-SP- _ SND2172-SP- _	1NO+1NC	SND4173-SP- _ SND2173-SP- _	1NO+1NC	SND4104-SP- _ SND2104-SP- _	1NO+1NC
SL	⊕	slow action	SND4172-SL- _ SND2172-SL- _	1NO+1NC BBM	SND4173-SL- _ SND2173-SL- _	1NO+1NC BBM	SND4104-SL- _ SND2104-SL- _	1NO+1NC BBM
SL1	⊕	slow action	SND4172-SL1- _ SND2172-SL1- _	1NO+1NC MBB	SND4173-SL1- _ SND2173-SL1- _	1NO+1NC MBB	SND4104-SL1- _ SND2104-SL1- _	1NO+1NC MBB
SL2	⊕	slow action	SND4172-SL2- _ SND2172-SL2- _	2NC	SND4173-SL2- _ SND2173-SL2- _	2NC	SND4104-SL2- _ SND2104-SL2- _	2NC
SL3		slow action	SND4172-SL3- _ SND2172-SL3- _	2NO	SND4173-SL3- _ SND2173-SL3- _	2NO	SND4104-SL3- _ SND2104-SL3- _	2NO
SL4	⊕	slow action	SND4172-SL4- _ SND2172-SL4- _	3NC	SND4173-SL4- _ SND2173-SL4- _	3NC	SND4104-SL4- _ SND2104-SL4- _	3NC
SL5		slow action	SND4172-SL5- _ SND2172-SL5- _	3NO	SND4173-SL5- _ SND2173-SL5- _	3NO	SND4104-SL5- _ SND2104-SL5- _	3NO
SL6	⊕	slow action	SND4172-SL6- _ SND2172-SL6- _	2NC+1NO BBM	SND4173-SL6- _ SND2173-SL6- _	2NC+1NO BBM	SND4104-SL6- _ SND2104-SL6- _	2NC+1NO BBM
SL7	⊕	slow action	SND4172-SL7- _ SND2172-SL7- _	2NC+1NO MBB	SND4173-SL7- _ SND2173-SL7- _	2NC+1NO MBB	SND4104-SL7- _ SND2104-SL7- _	2NC+1NO MBB
SL8	⊕	slow action	SND4172-SL8- _ SND2172-SL8- _	1NC+2NO BBM	SND4173-SL8- _ SND2173-SL8- _	1NC+2NO BBM	SND4104-SL8- _ SND2104-SL8- _	1NC+2NO BBM
SL9	⊕	slow action	SND4172-SL9- _ SND2172-SL9- _	1NC+2NO MBB	SND4173-SL9- _ SND2173-SL9- _	1NC+2NO MBB	SND4104-SL9- _ SND2104-SL9- _	1NC+2NO MBB

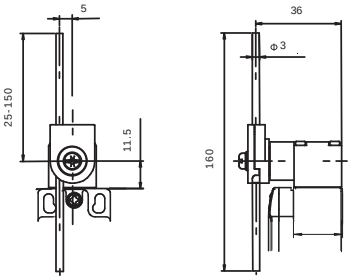
SND4 series
(single conduit)

SND2 series
(two conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16







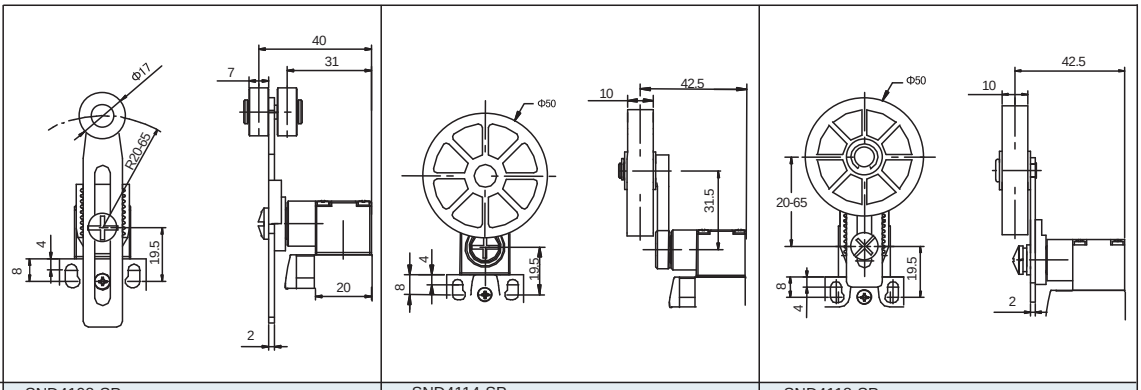
Contact block		Zb						
SP	⊕	snap action	SND4104-SP- _M SND2104-SP- _M	1NO+1NC	SND4104-SP- _SM SND2104-SP- _SM	1NO+1NC	SND4107-SP- _ SND2107-SP- _	1NO+1NC
SL	⊕	slow action	SND4104-SL- _M SND2104-SL- _M	1NO+1NC BBM	SND4104-SL- _SM SND2104-SL- _SM	1NO+1NC BBM	SND4107-SL- _ SND2107-SL- _	1NO+1NC BBM
SL1	⊕	slow action	SND4104-SL1- _M SND2104-SL1- _M	1NO+1NC MBB	SND4104-SL1- _SM SND2104-SL1- _SM	1NO+1NC MBB	SND4107-SL1- _ SND2107-SL1- _	1NO+1NC MBB
SL2	⊕	slow action	SND4104-SL2- _M SND2104-SL2- _M	2NC	SND4104-SL2- _SM SND2104-SL2- _SM	2NC	SND4107-SL2- _ SND2107-SL2- _	2NC
SL3		slow action	SND4104-SL3- _M SND2104-SL3- _M	2NO	SND4104-SL3- _SM SND2104-SL3- _SM	2NO	SND4107-SL3- _ SND2107-SL3- _	2NO
SL4	⊕	slow action	SND4104-SL4- _M SND2104-SL4- _M	3NC	SND4104-SL4- _SM SND2104-SL4- _SM	3NC	SND4107-SL4- _ SND2107-SL4- _	3NC
SL5		slow action	SND4104-SL5- _M SND2104-SL5- _M	3NO	SND4104-SL5- _SM SND2104-SL5- _SM	3NO	SND4107-SL5- _ SND2107-SL5- _	3NO
SL6	⊕	slow action	SND4104-SL6- _M SND2104-SL6- _M	2NC+1NO BBM	SND4104-SL6- _SM SND2104-SL6- _SM	2NC+1NO BBM	SND4107-SL6- _ SND2107-SL6- _	2NC+1NO BBM
SL7	⊕	slow action	SND4104-SL7- _M SND2104-SL7- _M	2NC+1NO MBB	SND4104-SL7- _SM SND2104-SL7- _SM	2NC+1NO MBB	SND4107-SL7- _ SND2107-SL7- _	2NC+1NO MBB
SL8	⊕	slow action	SND4104-SL8- _M SND2104-SL8- _M	1NC+2NO BBM	SND4104-SL8- _SM SND2104-SL8- _SM	1NC+2NO BBM	SND4107-SL8- _ SND2107-SL8- _	1NC+2NO BBM
SL9	⊕	slow action	SND4104-SL9- _M SND2104-SL9- _M	1NC+2NO MBB	SND4104-SL9- _SM SND2104-SL9- _SM	1NC+2NO MBB	SND4107-SL9- _ SND2107-SL9- _	1NC+2NO MBB

GLOBAL STYLE LIMIT SWITCHES (PLASTIC BODIED EN50047 TYPE)

SND4 series
(single conduit)

SND2 series
(two conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16

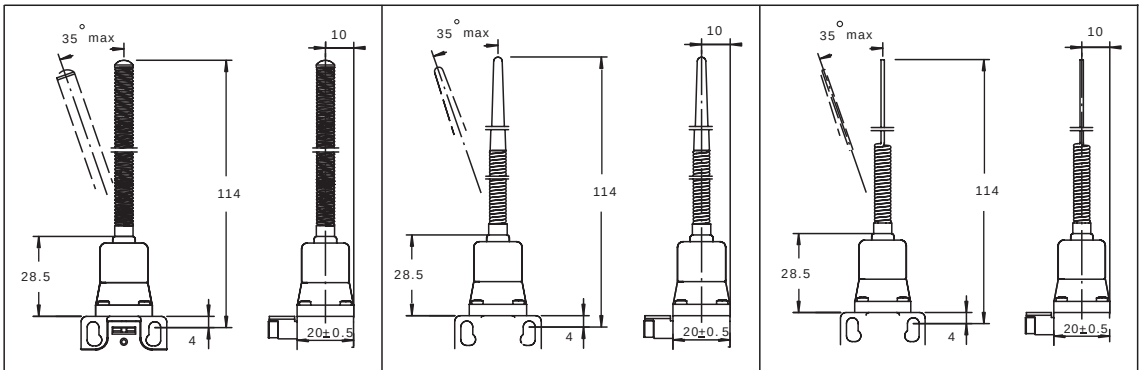


Contact block		Zb						
SP	⊕	snap action	SND4108-SP-_ SND2108-SP-_	1NO+1NC		SND4114-SP-_ SND2114-SP-_	1NO+1NC		SND4118-SP-_ SND2118-SP-_	1NO+1NC	
SL	⊕	slow action	SND4108-SL-_ SND2108-SL-_	1NO+1NC	BBM	SND4114-SL-_ SND2114-SL-_	1NO+1NC	BBM	SND4118-SL-_ SND2118-SL-_	1NO+1NC	BBM
SL1	⊕	slow action	SND4108-SL1-_ SND2108-SL1-_	1NO+1NC	MBB	SND4114-SL1-_ SND2114-SL1-_	1NO+1NC	MBB	SND4118-SL1-_ SND2118-SL1-_	1NO+1NC	MBB
SL2	⊕	slow action	SND4108-SL2-_ SND2108-SL2-_	2NC		SND4114-SL2-_ SND2114-SL2-_	2NC		SND4118-SL2-_ SND2118-SL2-_	2NC	
SL3		slow action	SND4108-SL3-_ SND2108-SL3-	2NO		SND4114-SL3-_ SND2114-SL3-_	2NO		SND4118-SL3-_ SND2118-SL3-	2NO	
SL4	⊕	slow action	SND4108-SL4-_ SND2108-SL4-	3NC		SND4114-SL4-_ SND2114-SL4-_	3NC		SND4118-SL4-_ SND2118-SL4-	3NC	
SL5		slow action	SND4108-SL5-_ SND2108-SL5-_	3NO		SND4114-SL5-_ SND2114-SL5-_	3NO		SND4118-SL5-_ SND2118-SL5-_	3NO	
SL6	⊕	slow action	SND4108-SL6-_ SND2108-SL6-_	2NC+1NO	BBM	SND4114-SL6-_ SND2114-SL6-_	2NC+1NO	BBM	SND4118-SL6-_ SND2118-SL6-_	2NC+1NO	BBM
SL7	⊕	slow action	SND4108-SL7-_ SND2108-SL7-	2NC+1NO	MBB	SND4114-SL7-_ SND2114-SL7-_	2NC+1NO	MBB	SND4118-SL7-_ SND2118-SL7-	2NC+1NO	MBB
SL8	⊕	slow action	SND4108-SL8-_ SND2108-SL8-_	1NC+2NO	BBM	SND4114-SL8-_ SND2114-SL8-_	1NC+2NO	BBM	SND4118-SL8-_ SND2118-SL8-_	1NC+2NO	BBM
SL9	⊕	slow action	SND4108-SL9-_ SND2108-SL9-_	1NC+2NO	MBB	SND4114-SL9-_ SND2114-SL9-_	1NC+2NO	MBB	SND4118-SL9-_ SND2118-SL9-_	1NC+2NO	MBB

SND4 series
(single conduit)

SND2 series
(two conduits)

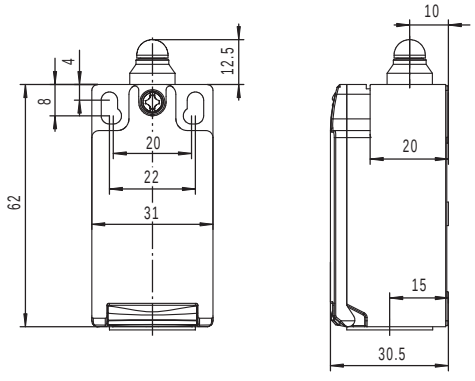
Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16



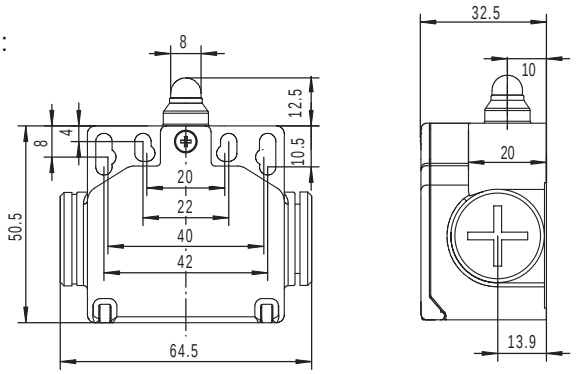
Contact block		Zb						
SP	⊕	snap action	SND4100-SP-_ SND4100-SP-_	1NO+1NC		SND4166-SP-_ SND4166-SP-_	1NO+1NC		SND4169-SP-_ SND4169-SP-_	1NO+1NC	

Body Dimension:

SND4:



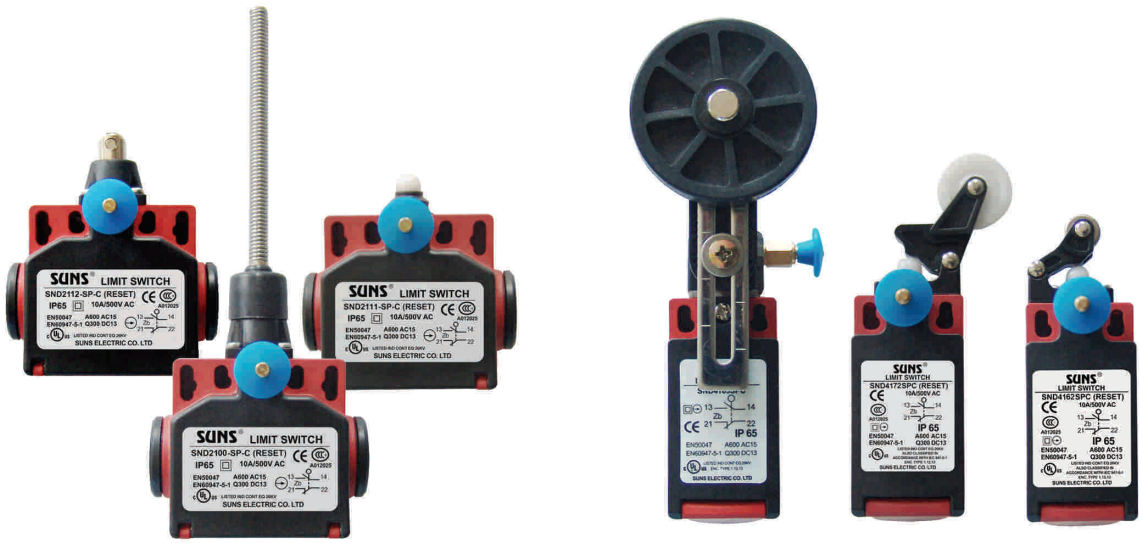
SND2:



GLOBAL STYLE LIMIT SWITCHES (PLASTIC BODIED EN50047 TYPE) WITH RESET FUNCTION

SND4-R SERIES (SINGLE CONDUIT ENTRY)

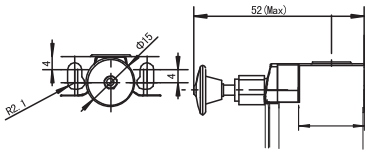
SND2-R SERIES (TWO CONDUIT ENTRIES)

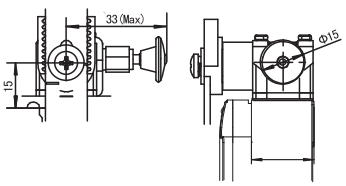


SND4 series
(single conduit)

SND2 series
(two conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
B1: for PG11
C: for M20
C1: for M16



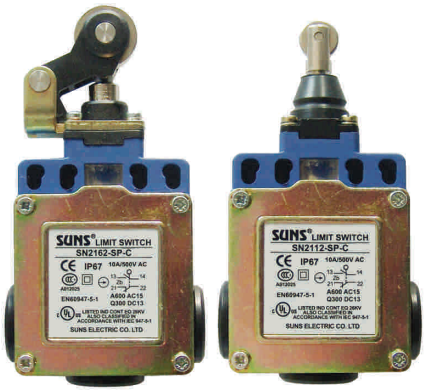


Contact block		Zb						
SP	⊕	snap action	SND41xx-SP- _R SND21xx-SP- _R	1NO+1NC		SND41xx-SP- _R SND21xx-SP- _R	1NO+1NC	
SL	⊕	slow action	SND41xx-SL- _R SND21xx-SL- _R	1NO+1NC	BBM	SND41xx-SL- _R SND21xx-SL- _R	1NO+1NC	BBM
SL1	⊕	slow action	SND41xx-SL1- _R SND21xx-SL1- _R	1NO+1NC	MBB	SND41xx-SL1- _R SND21xx-SL1- _R	1NO+1NC	MBB
SL2	⊕	slow action	SND41xx-SL2- _R SND21xx-SL2- _R	2NC		SND41xx-SL2- _R SND21xx-SL2- _R	2NC	
SL3		slow action	SND41xx-SL3- _R SND21xx-SL3- _R	2NO		SND41xx-SL3- _R SND21xx-SL3- _R	2NO	
SL4	⊕	slow action	SND41xx-SL4- _R SND21xx-SL4- _R	3NC		SND41xx-SL4- _R SND21xx-SL4- _R	3NC	
SL5		slow action	SND41xx-SL5- _R SND21xx-SL5- _R	3NO		SND41xx-SL5- _R SND21xx-SL5- _R	3NO	
SL6	⊕	slow action	SND41xx-SL6- _R SND21xx-SL6- _R	2NC+1NO	BBM	SND41xx-SL6- _R SND21xx-SL6- _R	2NC+1NO	BBM
SL7	⊕	slow action	SND41xx-SL7- _R SND21xx-SL7- _R	2NC+1NO	MBB	SND41xx-SL7- _R SND21xx-SL7- _R	2NC+1NO	MBB
SL8	⊕	slow action	SND41xx-SL8- _R SND21xx-SL8- _R	1NC+2NO	BBM	SND41xx-SL8- _R SND21xx-SL8- _R	1NC+2NO	BBM
SL9	⊕	slow action	SND41xx-SL9- _R SND21xx-SL9- _R	1NC+2NO	MBB	SND41xx-SL9- _R SND21xx-SL9- _R	1NC+2NO	MBB
			For 11, 12, 31, 32, 62, 63, 72,73 00, 66, 69 styles			For 04, 07, 08, 14, 18 styles		

GLOBAL STYLE LIMIT SWITCHES (METAL BODIED EN50047 TYPE)

SN4 SERIES (SINGLE CONDUIT ENTRY)

SN2 SERIES (TWO CONDUIT ENTRIES)



Features

- Zn/Al die cast body
- Increased wiring space
- Earth grounding surface on same level as switching
- Easily interchangable contact block
- Fine adjustment of switching point via adjusting screw
- Galvanically separated contacts
- Screw terminals with self-lifting clamps for easy wiring
- Positive Opening of NC contacts
- 4 x 90° actuator positions
- Cable entry available: M 20, PG13.5 and 1/2"NPT
- Conform to EN 50041 standard

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	0.05mm-2m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Current/Voltage	10A/600V AC (EN60947-5-1)
	UL/cUL Listed (E216958) AC15 A600 / DC13 Q300
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-25~+80°C (-13~176°F)
Humidity	< 95%RH
Weight	400-450g
Degree of Protectiion	IP67

Selection Guide:

SN41 — Body Styles
- SN41: single conduit
- SN21: 3 conduits

04 — Head Styles

SP — Contact Block
- SP: 1NO/1NC Snap action
- SL: 1NO/1NC Slow Action changeover
- SL1: 1NO/1NC Slow Action Overlapping
- SL2: 2NC Slow Action
- SL3: 2NO Slow Action
- SL4: 3NC Slow Action
- SL5: 3NO Slow Action
- SL6: 2NC/1NO Slow Action changeover
- SL7: 2NC/1NO Slow Action Overlapping
- SL8: 2NO/1NC Slow Action changeover
- SL9: 2NO/1NC Slow Action Overlapping

C — Conduits
- A: 1/2"NPT
- B: PG13.5
- C: M20
- B1: PG11
- C1: M16

- — Roller material
- Blank: Metal
- P: Nylon Roller

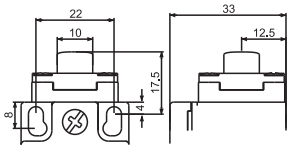
R — Roller material
- Blank
- R: with Reset

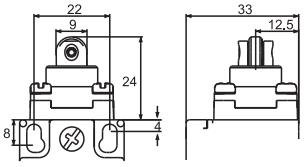
GLOBAL STYLE LIMIT SWITCHES (METAL BODIED EN50047 TYPE)

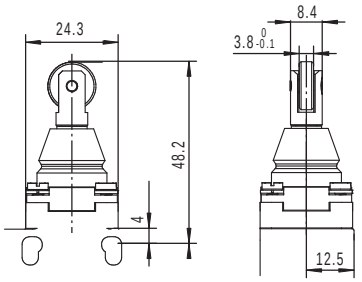
SN4 series
(single conduit)

SN2 series
(Three conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20





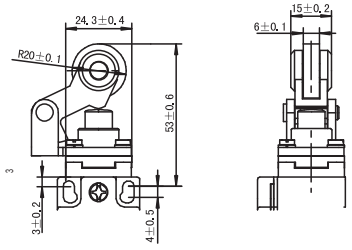


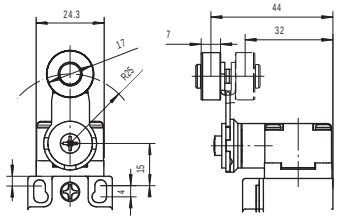
Contact block		Zb						
SP	⊖	snap action	SN4111-SP- _ SN2111-SP- _	1NO+1NC	SN4112-SP- _ SN2112-SP- _	1NO+1NC	SN4112-SP- _L SN2112-SP- _L	1NO+1NC
SL	⊖	slow action	SN4111-SL- _ SN2111-SL- _	1NO+1NC BBM	SN4112-SL- _ SN2112-SL- _	1NO+1NC BBM	SN4112-SL- _L SN2112-SL- _L	1NO+1NC BBM
SL1	⊖	slow action	SN4111-SL1- _ SN2111-SL1- _	1NO+1NC MBB	SN4112-SL1- _ SN2112-SL1- _	1NO+1NC MBB	SN4112-SL1- _L SN2112-SL1- _L	1NO+1NC MBB
SL2	⊖	slow action	SN4111-SL2- _ SN2111-SL2- _	2NC	SN4112-SL2- _ SN2112-SL2- _	2NC	SN4112-SL2- _L SN2112-SL2- _L	2NC
SL3		slow action	SN4111-SL3- _ SN2111-SL3- _	2NO	SN4112-SL3- _ SN2112-SL3- _	2NO	SN4112-SL3- _L SN2112-SL3- _L	2NO
SL4	⊖	slow action	SN4111-SL4- _ SN2111-SL4- _	3NC	SN4112-SL4- _ SN2112-SL4- _	3NC	SN4112-SL4- _L SN2112-SL4- _L	3NC
SL5		slow action	SN4111-SL5- _ SN2111-SL5- _	3NO	SN4112-SL5- _ SN2112-SL5- _	3NO	SN4112-SL5- _L SN2112-SL5- _L	3NO
SL6	⊖	slow action	SN4111-SL6- _ SN2111-SL6- _	2NC+1NO BBM	SN4112-SL6- _ SN2112-SL6- _	2NC+1NO BBM	SN4112-SL6- _L SN2112-SL6- _L	2NC+1NO BBM
SL7	⊖	slow action	SN4111-SL7- _ SN2111-SL7- _	2NC+1NO MBB	SN4112-SL7- _ SN2112-SL7- _	2NC+1NO MBB	SN4112-SL7- _L SN2112-SL7- _L	2NC+1NO MBB
SL8	⊖	slow action	SN4111-SL8- _ SN2111-SL8- _	1NC+2NO BBM	SN4112-SL8- _ SN2112-SL8- _	1NC+2NO BBM	SN4112-SL8- _L SN2112-SL8- _L	1NC+2NO BBM
SL9	⊖	slow action	SN4111-SL9- _ SN2111-SL9- _	1NC+2NO MBB	SN4112-SL9- _ SN2112-SL9- _	1NC+2NO MBB	SN4112-SL9- _L SN2112-SL9- _L	1NC+2NO MBB

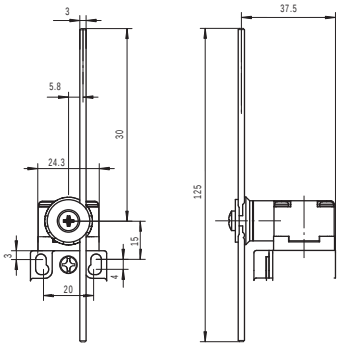
SN4 series
(single conduit)

SN2 series
(Three conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20







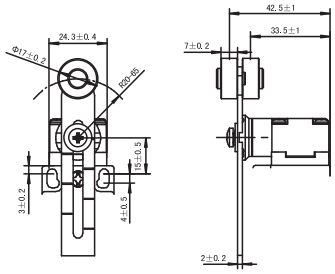
Contact block		Zb						
SP	⊖	snap action	SN4062-SP- _ SN2062-SP- _	1NO+1NC	SN4104-SP- _ SN2104-SP- _	1NO+1NC	SN4107-SP- _ SN2107-SP- _	1NO+1NC
SL	⊖	slow action	SN4062-SL- _ SN2062-SL- _	1NO+1NC BBM	SN4104-SL- _ SN2104-SL- _	1NO+1NC BBM	SN4107-SL- _ SN2107-SL- _	1NO+1NC BBM
SL1	⊖	slow action	SN4062-SL1- _ SN2062-SL1- _	1NO+1NC MBB	SN4104-SL1- _ SN2104-SL1- _	1NO+1NC MBB	SN4107-SL1- _ SN2107-SL1- _	1NO+1NC MBB
SL2	⊖	slow action	SN4062-SL2- _ SN2062-SL2- _	2NC	SN4104-SL2- _ SN2104-SL2- _	2NC	SN4107-SL2- _ SN2107-SL2- _	2NC
SL3		slow action	SN4062-SL3- _ SN2062-SL3-	2NO	SN4104-SL3- _ SN2104-SL3-	2NO	SN4107-SL3- _ SN2107-SL3-	2NO
SL4	⊖	slow action	SN4062-SL4- _ SN2062-SL4-	3NC	SN4104-SL4- _ SN2104-SL4-	3NC	SN4107-SL4- _ SN2107-SL4-	3NC
SL5		slow action	SN4062-SL5- _ SN2062-SL5- _	3NO	SN4104-SL5- _ SN2104-SL5- _	3NO	SN4107-SL5- _ SN2107-SL5- _	3NO
SL6	⊖	slow action	SN4062-SL6- _ SN2062-SL6- _	2NC+1NO BBM	SN4104-SL6- _ SN2104-SL6- _	2NC+1NO BBM	SN4107-SL6- _ SN2107-SL6- _	2NC+1NO BBM
SL7	⊖	slow action	SN4062-SL7- _ SN2062-SL7-	2NC+1NO MBB	SN4104-SL7- _ SN2104-SL7-	2NC+1NO MBB	SN4107-SL7- _ SN2107-SL7-	2NC+1NO MBB
SL8	⊖	slow action	SN4062-SL8- _ SN2062-SL8- _	1NC+2NO BBM	SN4104-SL8- _ SN2104-SL8- _	1NC+2NO BBM	SN4107-SL8- _ SN2107-SL8- _	1NC+2NO BBM
SL9	⊖	slow action	SN4062-SL9- _ SN2062-SL9- _	1NC+2NO MBB	SN4104-SL9- _ SN2104-SL9- _	1NC+2NO MBB	SN4107-SL9- _ SN2107-SL9- _	1NC+2NO MBB

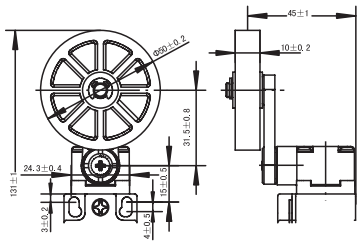
GLOBAL STYLE LIMIT SWITCHES (METAL BODIED EN50047 TYPE)

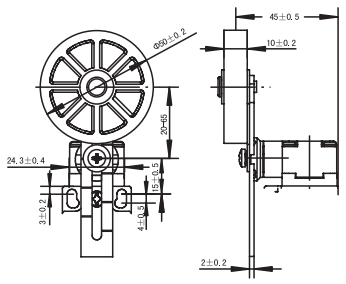
SN4 series
(single conduit)

SN2 series
(Three conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20





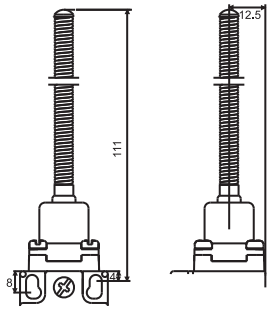


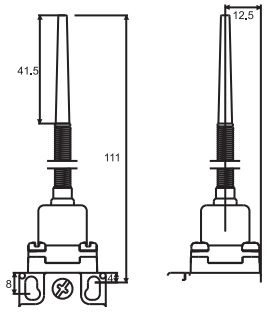
Contact block	Zb							
SP	snap action	SN4108-SP- _ SN2108-SP- _	1NO+1NC		SN4114-SP- _ SN2114-SP- _	1NO+1NC	SN4118-SP- _ SN2118-SP- _	1NO+1NC
SL	slow action	SN4108-SL- _ SN2108-SL- _	1NO+1NC	BBM	SN4114-SL- _ SN2114-SL- _	1NO+1NC BBM	SN4118-SL- _ SN2118-SL- _	1NO+1NC BBM
SL1	slow action	SN4108-SL1- _ SN2108-SL1- _	1NO+1NC	MBB	SN4114-SL1- _ SN2114-SL1- _	1NO+1NC MBB	SN4118-SL1- _ SN2118-SL1- _	1NO+1NC MBB
SL2	slow action	SN4108-SL2- _ SN2108-SL2- _	2NC		SN4114-SL2- _ SN2114-SL2- _	2NC	SN4118-SL2- _ SN2118-SL2- _	2NC
SL3	slow action	SN4108-SL3- _ SN2108-SL3- _	2NO		SN4114-SL3- _ SN2114-SL3- _	2NO	SN4118-SL3- _ SN2118-SL3- _	2NO
SL4	slow action	SN4108-SL4- _ SN2108-SL4- _	3NC		SN4114-SL4- _ SN2114-SL4- _	3NC	SN4118-SL4- _ SN2118-SL4- _	3NC
SL5	slow action	SN4108-SL5- _ SN2108-SL5- _	3NO		SN4114-SL5- _ SN2114-SL5- _	3NO	SN4118-SL5- _ SN2118-SL5- _	3NO
SL6	slow action	SN4108-SL6- _ SN2108-SL6- _	2NC+1NO	BBM	SN4114-SL6- _ SN2114-SL6- _	2NC+1NO BBM	SN4118-SL6- _ SN2118-SL6- _	2NC+1NO BBM
SL7	slow action	SN4108-SL7- _ SN2108-SL7- _	2NC+1NO	MBB	SN4114-SL7- _ SN2114-SL7- _	2NC+1NO MBB	SN4118-SL7- _ SN2118-SL7- _	2NC+1NO MBB
SL8	slow action	SN4108-SL8- _ SN2108-SL8- _	1NC+2NO	BBM	SN4114-SL8- _ SN2114-SL8- _	1NC+2NO BBM	SN4118-SL8- _ SN2118-SL8- _	1NC+2NO BBM
SL9	slow action	SN4108-SL9- _ SN2108-SL9- _	1NC+2NO	MBB	SN4114-SL9- _ SN2114-SL9- _	1NC+2NO MBB	SN4118-SL9- _ SN2118-SL9- _	1NC+2NO MBB

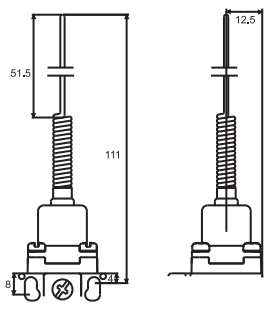
SN4 series
(single conduit)

SN2 series
(Three conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20



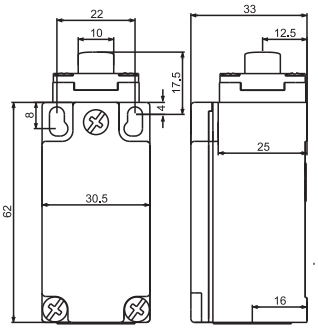




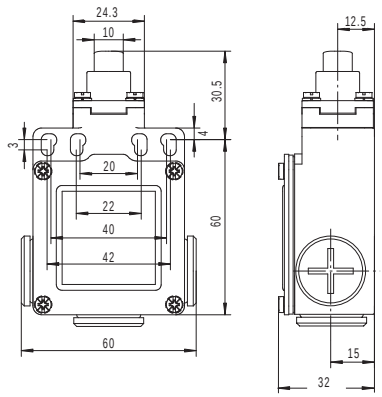
Contact block	Zb							
SP	snap action	SN4100-SP- _ SN4100-SP- _	1NO+1NC		SN4166-SP- _ SN4166-SP- _	1NO+1NC	SN4169-SP- _ SN4169-SP- _	1NO+1NC

Body Dimension:

SN4:



SN2:



GLOBAL STYLE LIMIT SWITCHES (METAL BODIED EN50047 TYPE) WITH RESET FUNCTION

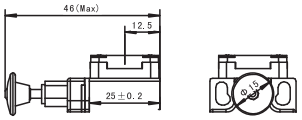
SN4-R SERIES (SINGLE CONDUIT ENTRY, WITH RESET)

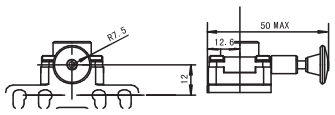
SN2-R SERIES (TWO CONDUIT ENTRIES)

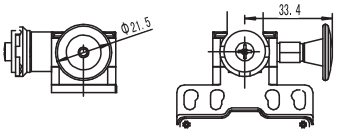
SN4 series
(single conduit)

SN2 series
(Three conduits)

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20







Contact block	Zb								
SP	⊕	snap action	SN41xx-SP- _-R	1NO+1NC	SN21xx-SP- _-R	1NO+1NC	SN41xx-SP- _R SN21xx-SP- _R	1NO+1NC	
SL	⊕	slow action	SN41xx-SL- _-R	1NO+1NC BBM	SN21xx-SL- _-R	1NO+1NC BBM	SN41xx-SL- _R SN21xx-SL- _R	1NO+1NC	BBM
SL1	⊕	slow action	SN41xx-SL1- _-R	1NO+1NC MBB	SN21xx-SL1- _-R	1NO+1NC MBB	SN41xx-SL1- _R SN21xx-SL1- _R	1NO+1NC	MBB
SL2	⊕	slow action	SN41xx-SL2- _-R	2NC	SN21xx-SL2- _-R	2NC	SN41xx-SL2- _R SN21xx-SL2- _R	2NC	
SL3		slow action	SN41xx-SL3- _-R	2NO	SN21xx-SL3- _-R	2NO	SN41xx-SL3- _R SN21xx-SL3- _R	2NO	
SL4	⊕	slow action	SN41xx-SL4- _-R	3NC	SN21xx-SL4- _-R	3NC	SN41xx-SL4- _R SN21xx-SL4- _R	3NC	
SL5		slow action	SN41xx-SL5- _-R	3NO	SN21xx-SL5- _-R	3NO	SN41xx-SL5- _R SN21xx-SL5- _R	3NO	
SL6	⊕	slow action	SN41xx-SL6- _-R	2NC+1NO BBM	SN21xx-SL6- _-R	2NC+1NO BBM	SN41xx-SL6- _R SN21xx-SL6- _R	2NC+1NO	BBM
SL7	⊕	slow action	SN41xx-SL7- _-R	2NC+1NO MBB	SN21xx-SL7- _-R	2NC+1NO MBB	SN41xx-SL7- _R SN21xx-SL7- _R	2NC+1NO	MBB
SL8	⊕	slow action	SN41xx-SL8- _-R	1NC+2NO BBM	SN21xx-SL8- _-R	1NC+2NO BBM	SN41xx-SL8- _R SN21xx-SL8- _R	1NC+2NO	BBM
SL9	⊕	slow action	SN41xx-SL9- _-R	1NC+2NO MBB	SN21xx-SL9- _-R	1NC+2NO MBB	SN41xx-SL9- _R SN21xx-SL9- _R	1NC+2NO	MBB
			For 11, 12, 31, 32, 62, 63, 72,73 00, 66, 69 styles		For 11, 12, 31, 32, 62, 63, 72,73 00, 66, 69 styles		For 04, 07, 08, 14, 18 styles		

GLOBAL STYLE LIMIT SWITCHES (EN50041 TYPE)

SN6 SERIES (METAL BODIED)

SND6 SERIES (PLASTIC BODIED, METAL HEADS)

METAL BODIED

PLASTIC BODIED

Features

- Zn/Al die cast body
- Increased wiring space
- Earth grounding surface on same level as switching
- Easily interchangable contact block
- Fine adjustment of switching point via adjusting screw
- Galvanically separated contacts
- Screw terminals with self-lifting clamps for easy wiring
- Positive Opening of NC contacts
- 4 x 90° actuator positions
- Cable entry available: M 20, PG13.5 and 1/2"NPT
- Conform to EN 50041 standard

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	0.05mm-2m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Current/Voltage	10A/600V AC (EN60947-5-1)
	UL/cUL Listed (E216958) AC15 A600 / DC13 Q300
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-25~+80°C (-13~176°F)
Humidity	< 95%RH
Weight	400-450g for metal body and 150-250g for plastic body
Degree of Protectiion	IP67

Selection Guide:

SN61 — Body Styles
- SN61: Metal body Metal head
- SND61: Plastic body Metal head

04 — Head Styles

SP — Contact Block
- SP: 1NO/1NC Snap action
- SL: 1NO/1NC Slow Action changeover
- SL1: 1NO/1NC Slow Action Overlapping
- SL2: 2NC Slow Action
- SL3: 2NO Slow Action
- SL4: 3NC Slow Action
- SL5: 3NO Slow Action
- SL6: 2NC/1NO Slow Action changeover
- SL7: 2NC/1NO Slow Action Overlapping
- SL8: 2NO/1NC Slow Action changeover
- SL9: 2NO/1NC Slow Action Overlapping

C — Conduits
- A: 1/2"NPT
- B: PG13.5
- C: M20

- — Roller material
- Blank: Metal
- P: Nylon Roller

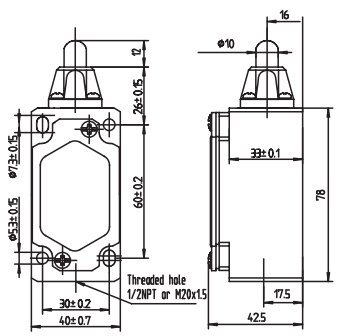
R — Roller material
- Blank
- R: with Reset

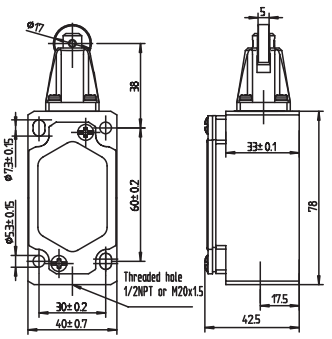
GLOBAL STYLE LIMIT SWITCHES (EN50041 TYPE)

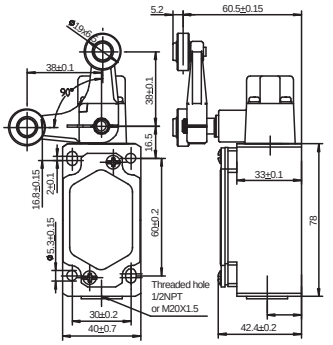
metal housing
SN6 Series

Plastic housing
SND6 Series

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20





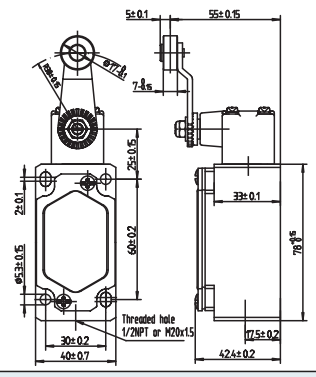


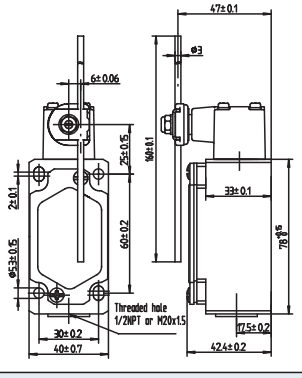
Contact block	Zb							
SP	⊕	snap action	SN6111-SP- _ SND6111-SP- _	1NO+1NC	SN6112-SP- _ SND6112-SP- _	1NO+1NC	SN6105-SP- _ SND6105-SP- _	1NO+1NC
SL	⊕	slow action	SN6111-SL- _ SND6111-SL- _	1NO+1NC BBM	SN6112-SL- _ SND6112-SL- _	1NO+1NC BBM	SN6105-SL- _ SND6105-SL- _	1NO+1NC BBM
SL1	⊕	slow action	SN6111-SL1- _ SND6111-SL1- _	1NO+1NC MBB	SN6112-SL1- _ SND6112-SL1- _	1NO+1NC MBB	SN6105-SL1- _ SND6105-SL1- _	1NO+1NC MBB
SL2	⊕	slow action	SN6111-SL2- _ SND6111-SL2- _	2NC	SN6112-SL2- _ SND6112-SL2- _	2NC	SN6105-SL2- _ SND6105-SL2- _	2NC
SL3		slow action	SN6111-SL3- _ SND6111-SL3- _	2NO	SN6112-SL3- _ SND6112-SL3- _	2NO	SN6105-SL3- _ SND6105-SL3- _	2NO
SL4	⊕	slow action	SN6111-SL4- _ SND6111-SL4- _	3NC	SN6112-SL4- _ SND6112-SL4- _	3NC	SN6105-SL4- _ SND6105-SL4- _	3NC
SL5		slow action	SN6111-SL5- _ SND6111-SL5- _	3NO	SN6112-SL5- _ SND6112-SL5- _	3NO	SN6105-SL5- _ SND6105-SL5- _	3NO
SL6	⊕	slow action	SN6111-SL6- _ SND6111-SL6- _	2NC+1NO BBM	SN6112-SL6- _ SND6112-SL6- _	2NC+1NO BBM	SN6105-SL6- _ SND6105-SL6- _	2NC+1NO BBM
SL7	⊕	slow action	SN6111-SL7- _ SND6111-SL7- _	2NC+1NO MBB	SN6112-SL7- _ SND6112-SL7- _	2NC+1NO MBB	SN6105-SL7- _ SND6105-SL7- _	2NC+1NO MBB
SL8	⊕	slow action	SN6111-SL8- _ SND6111-SL8- _	1NC+2NO BBM	SN6112-SL8- _ SND6112-SL8- _	1NC+2NO BBM	SN6105-SL8- _ SND6105-SL8- _	1NC+2NO BBM
SL9	⊕	slow action	SN6111-SL9- _ SND6111-SL9- _	1NC+2NO MBB	SN6112-SL9- _ SND6112-SL9- _	1NC+2NO MBB	SN6105-SL9- _ SND6105-SL9- _	1NC+2NO MBB

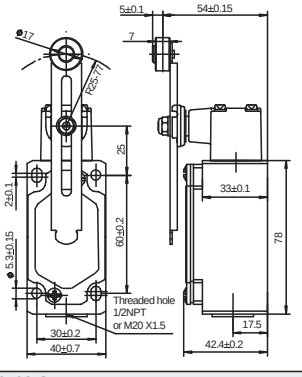
metal housing
SN6 Series

Plastic housing
SND6 Series

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20







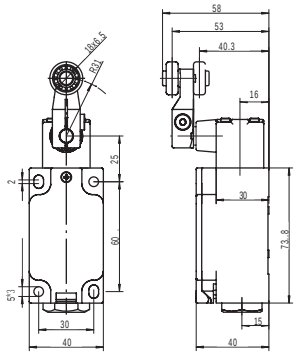
Contact block	Zb							
SP	⊕	snap action	SN6104-SP- _ SND6104-SP- _	1NO+1NC	SN6107-SP- _ SND6107-SP- _	1NO+1NC	SN6108-SP- _ SND6108-SP- _	1NO+1NC
SL	⊕	slow action	SN6104-SL- _ SND6104-SL- _	1NO+1NC BBM	SN6107-SL- _ SND6107-SL- _	1NO+1NC BBM	SN6108-SL- _ SND6108-SL- _	1NO+1NC BBM
SL1	⊕	slow action	SN6104-SL1- _ SND6104-SL1- _	1NO+1NC MBB	SN6107-SL1- _ SND6107-SL1- _	1NO+1NC MBB	SN6108-SL1- _ SND6108-SL1- _	1NO+1NC MBB
SL2	⊕	slow action	SN6104-SL2- _ SND6104-SL2- _	2NC	SN6107-SL2- _ SND6107-SL2- _	2NC	SN6108-SL2- _ SND6108-SL2- _	2NC
SL3		slow action	SN6104-SL3- _ SND6104-SL3- _	2NO	SN6107-SL3- _ SND6107-SL3- _	2NO	SN6108-SL3- _ SND6108-SL3- _	2NO
SL4	⊕	slow action	SN6104-SL4- _ SND6104-SL4- _	3NC	SN6107-SL4- _ SND6107-SL4- _	3NC	SN6108-SL4- _ SND6108-SL4- _	3NC
SL5		slow action	SN6104-SL5- _ SND6104-SL5- _	3NO	SN6107-SL5- _ SND6107-SL5- _	3NO	SN6108-SL5- _ SND6108-SL5- _	3NO
SL6	⊕	slow action	SN6104-SL6- _ SND6104-SL6- _	2NC+1NO BBM	SN6107-SL6- _ SND6107-SL6- _	2NC+1NO BBM	SN6108-SL6- _ SND6108-SL6- _	2NC+1NO BBM
SL7	⊕	slow action	SN6104-SL7- _ SND6104-SL7- _	2NC+1NO MBB	SN6107-SL7- _ SND6107-SL7- _	2NC+1NO MBB	SN6108-SL7- _ SND6108-SL7- _	2NC+1NO MBB
SL8	⊕	slow action	SN6104-SL8- _ SND6104-SL8- _	1NC+2NO BBM	SN6107-SL8- _ SND6107-SL8- _	1NC+2NO BBM	SN6108-SL8- _ SND6108-SL8- _	1NC+2NO BBM
SL9	⊕	slow action	SN6104-SL9- _ SND6104-SL9- _	1NC+2NO MBB	SN6107-SL9- _ SND6107-SL9- _	1NC+2NO MBB	SN6108-SL9- _ SND6108-SL9- _	1NC+2NO MBB

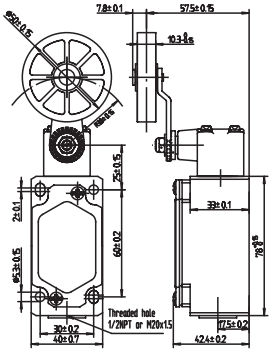
GLOBAL STYLE LIMIT SWITCHES (EN50041 TYPE)

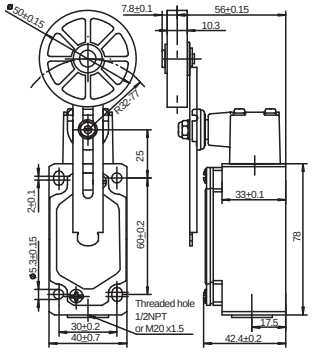
metal housing
SN6 Series

Plastic housing
SND6 Series

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20





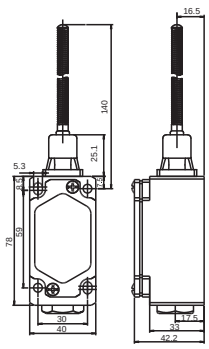


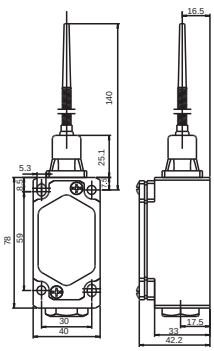
Contact block		Zb							
SP	⊕	snap action	SN6104-SP- _S SND6104-SP- _S	1NO+1NC		SN6114-SP- _ SND6114-SP- _	1NO+1NC		SN6118-SP- _ SND6118-SP- _	1NO+1NC	
SL	⊕	slow action	SN6104-SL- _S SND6104-SL- _S	1NO+1NC	BBM	SN6114-SL- _ SND6114-SL- _	1NO+1NC	BBM	SN6118-SL- _ SND6118-SL- _	1NO+1NC	BBM
SL1	⊕	slow action	SN6104-SL1- _S SND6104-SL1- _S	1NO+1NC	MBB	SN6114-SL1- _ SND6114-SL1- _	1NO+1NC	MBB	SN6118-SL1- _ SND6118-SL1- _	1NO+1NC	MBB
SL2	⊕	slow action	SN6104-SL2- _S SND6104-SL2- _S	2NC		SN6114-SL2- _ SND6114-SL2- _	2NC		SN6118-SL2- _ SND6118-SL2- _	2NC	
SL3		slow action	SN6104-SL3- _S SND6104-SL3- _S	2NO		SN6114-SL3- _ SND6114-SL3- _	2NO		SN6118-SL3- _ SND6118-SL3- _	2NO	
SL4	⊕	slow action	SN6104-SL4- _S SND6104-SL4- _S	3NC		SN6114-SL4- _ SND6114-SL4- _	3NC		SN6118-SL4- _ SND6118-SL4- _	3NC	
SL5		slow action	SN6104-SL5- _S SND6104-SL5- _S	3NO		SN6114-SL5- _ SND6114-SL5- _	3NO		SN6118-SL5- _ SND6118-SL5- _	3NO	
SL6	⊕	slow action	SN6104-SL6- _S SND6104-SL6- _S	2NC+1NO	BBM	SN6114-SL6- _ SND6114-SL6- _	2NC+1NO	BBM	SN6118-SL6- _ SND6118-SL6- _	2NC+1NO	BBM
SL7	⊕	slow action	SN6104-SL7- _S SND6104-SL7- _S	2NC+1NO	MBB	SN6114-SL7- _ SND6114-SL7- _	2NC+1NO	MBB	SN6118-SL7- _ SND6118-SL7- _	2NC+1NO	MBB
SL8	⊕	slow action	SN6104-SL8- _S SND6104-SL8- _S	1NC+2NO	BBM	SN6114-SL8- _ SND6114-SL8- _	1NC+2NO	BBM	SN6118-SL8- _ SND6118-SL8- _	1NC+2NO	BBM
SL9	⊕	slow action	SN6104-SL9- _S SND6104-SL9- _S	1NC+2NO	MBB	SN6114-SL9- _ SND6114-SL9- _	1NC+2NO	MBB	SN6118-SL9- _ SND6118-SL9- _	1NC+2NO	MBB

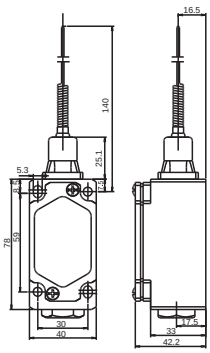
metal housing
SN6 Series

Plastic housing
SND6 Series

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20



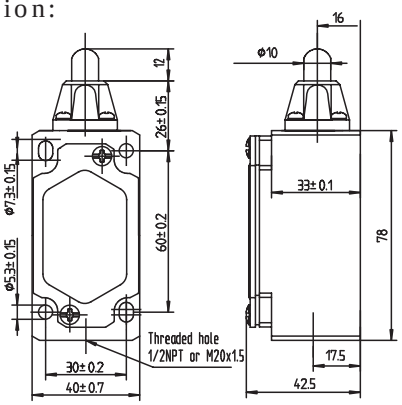




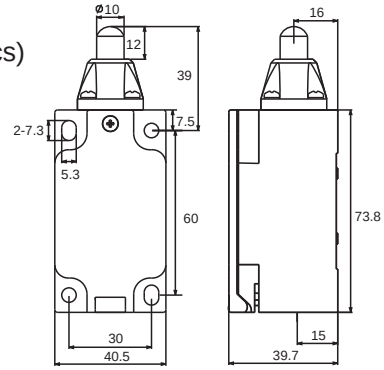
Contact block		Zb							
SP	⊕	snap action	SN6100-SP- _ SND6100-SP- _	1NO+1NC		SN6166-SP- _ SND6166-SP- _	1NO+1NC		SN6169-SP- _ SND6169-SP- _	1NO+1NC	

Body Dimension:

SN6 (Metal)



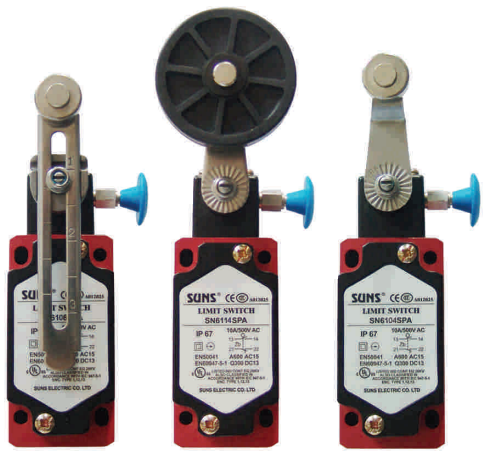
SND6 (Plastics)



GLOBAL STYLE LIMIT SWITCHES (EN50041 TYPE) with RESET

SN6 SERIES (METAL BODIED)

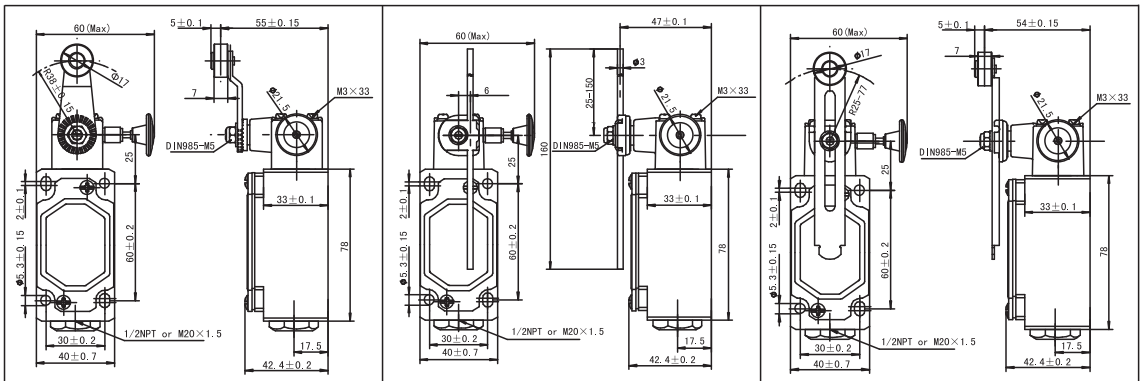
SND6 SERIES (PLASTIC BODIED, METAL HEADS)



metal housing
SN6 Series

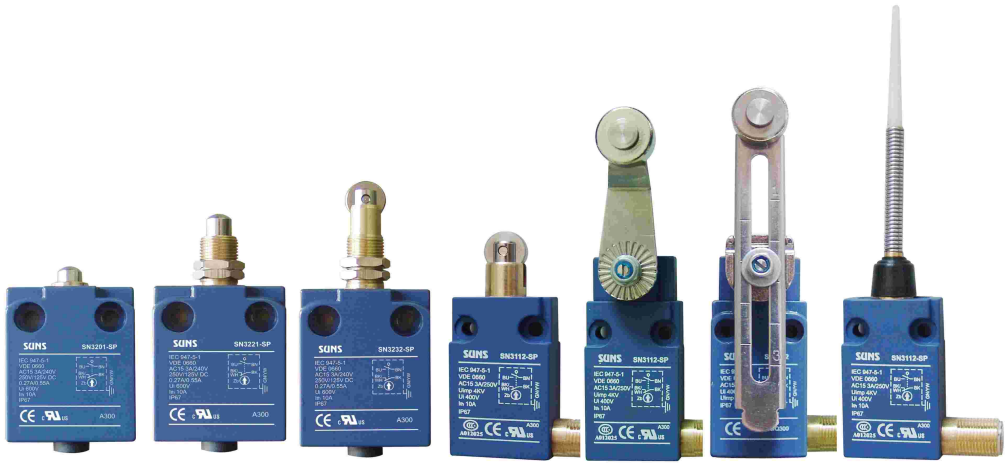
Plastic housing
SND6 Series

Add suffix:
A: for 1/2NPT
B: for PG13.5
C: for M20



Contact block		Zb						
SP	⊕	snap action	SN6104-SP- _ SND6104-SP- _	1NO+1NC		SN6107-SP- _ SND6107-SP- _	1NO+1NC		SN6108-SP- _ SND6108-SP- _	1NO+1NC	
SL	⊕	slow action	SN6104-SL- _ SND6104-SL- _	1NO+1NC	BBM	SN6107-SL- _ SND6107-SL- _	1NO+1NC	BBM	SN6108-SL- _ SND6108-SL- _	1NO+1NC	BBM
SL1	⊕	slow action	SN6104-SL1- _ SND6104-SL1- _	1NO+1NC	MBB	SN6107-SL1- _ SND6107-SL1- _	1NO+1NC	MBB	SN6108-SL1- _ SND6108-SL1- _	1NO+1NC	MBB
SL2	⊕	slow action	SN6104-SL2- _ SND6104-SL2- _	2NC		SN6107-SL2- _ SND6107-SL2- _	2NC		SN6108-SL2- _ SND6108-SL2- _	2NC	
SL3		slow action	SN6104-SL3- _ SND6104-SL3- _	2NO		SN6107-SL3- _ SND6107-SL3- _	2NO		SN6108-SL3- _ SND6108-SL3- _	2NO	
SL4	⊕	slow action	SN6104-SL4- _ SND6104-SL4- _	3NC		SN6107-SL4- _ SND6107-SL4- _	3NC		SN6108-SL4- _ SND6108-SL4- _	3NC	
SL5		slow action	SN6104-SL5- _ SND6104-SL5- _	3NO		SN6107-SL5- _ SND6107-SL5- _	3NO		SN6108-SL5- _ SND6108-SL5- _	3NO	
SL6	⊕	slow action	SN6104-SL6- _ SND6104-SL6- _	2NC+1NO	BBM	SN6107-SL6- _ SND6107-SL6- _	2NC+1NO	BBM	SN6108-SL6- _ SND6108-SL6- _	2NC+1NO	BBM
SL7	⊕	slow action	SN6104-SL7- _ SND6104-SL7-	2NC+1NO	MBB	SN6107-SL7- _ SND6107-SL7-	2NC+1NO	MBB	SN6108-SL7- _ SND6108-SL7- _	2NC+1NO	MBB
SL8	⊕	slow action	SN6104-SL8- _ SND6104-SL8- _	1NC+2NO	BBM	SN6107-SL8- _ SND6107-SL8- _	1NC+2NO	BBM	SN6108-SL8- _ SND6108-SL8- _	1NC+2NO	BBM
SL9	⊕	slow action	SN6104-SL9- _ SND6104-SL9- _	1NC+2NO	MBB	SN6107-SL9- _ SND6107-SL9- _	1NC+2NO	MBB	SN6108-SL9- _ SND6108-SL9- _	1NC+2NO	MBB

COMPACT LIMIT SWITCHES
SN31 SERIES (20mm) and SN32 SERIES (25mm)



SN3 [1] - [12] - [SP] - [A] - [2]

Housing
- 20mm mounting: 1
- 25mm mounting: 2

Head Style: 12

- SP: Snap Action
- SL: Slow Action

- A: Cable side exit
- B: Cable bottom exit
- C: M12 connector side exit
- D: M12 connector bottom exit

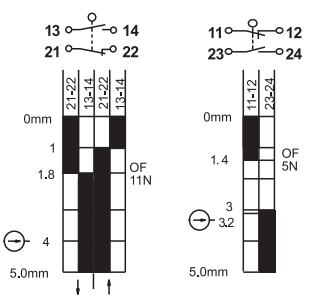
2 meter cable

Specification

Operating Speed	0.05mm-2m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Voltage	300V AC (EN60947-5-1)
Rated Thermal Current	10A
Electrical Rating	AC15 A300 DC13 Q300
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-25~+85°C without formation of ice
Humidity	< 95%RH
Cable	5 core, 0.75mm^2
Degree of Protection	IP67

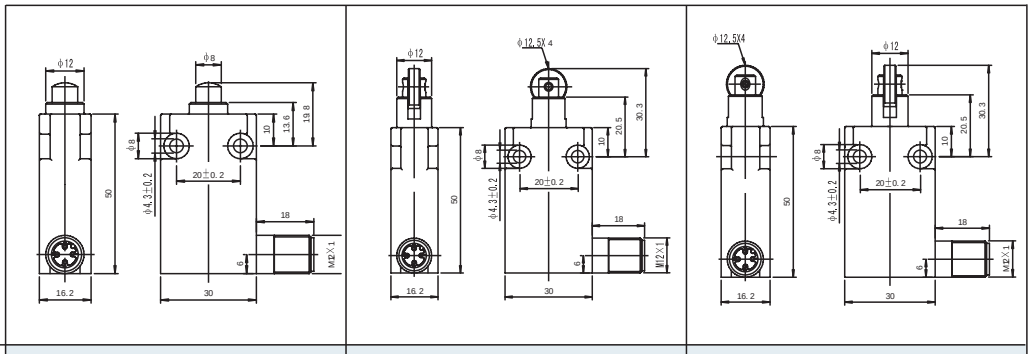
Electrical Ratings

IEC 947-5-1 / EN 90947-5-1								
Designation & Utilization Category		Rated operational current Ie (A) at rated operational voltage Ue						VA rating	
		120V	240V	380V	480V	500V	600V	Make	Break
AC15	A300	6	3	-	-	-	-	7200	720
DC13	Q300	125VDC 0.55		250VDC 0.27				69	69



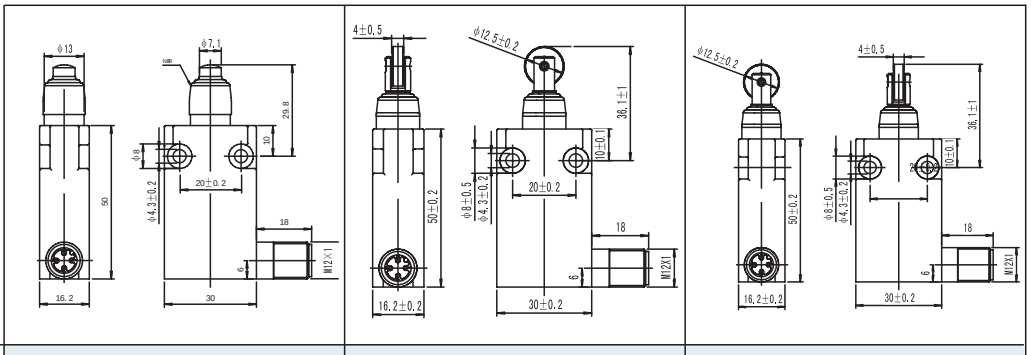
COMPACT LIMIT SWITCHES SN31 SERIES (20mm)

SN31 series



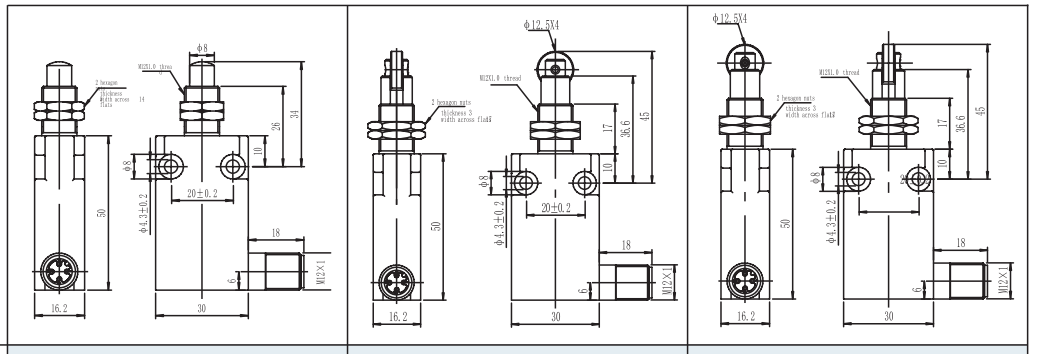
Contact block	Zb							
SP	⊖	snap action	SN3101-SP	1NO+1NC	SN3112-SP	1NO+1NC	SN3122-SP	1NO+1NC
SL	⊖	slow action	SN3101-SL	1NO+1NC BBM	SN3112-SL	1NO+1NC BBM	SN3122-SL	1NO+1NC BBM

SN31 series



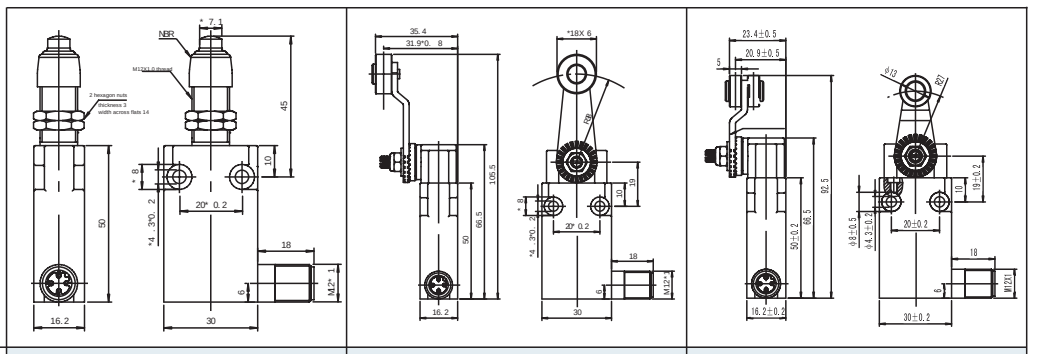
Contact block	Zb							
SP	⊖	snap action	SN3111-SP	1NO+1NC	SN3102-SP	1NO+1NC	SN3103-SP	1NO+1NC
SL	⊖	slow action	SN3111-SL	1NO+1NC BBM	SN3102-SL	1NO+1NC BBM	SN3103-SL	1NO+1NC BBM

SN31 series



Contact block	Zb							
SP	⊖	snap action	SN3121-SP	1NO+1NC	SN3132-SP	1NO+1NC	SN3142-SP	1NO+1NC
SL	⊖	slow action	SN3121-SL	1NO+1NC BBM	SN3132-SL	1NO+1NC BBM	SN3142-SL	1NO+1NC BBM

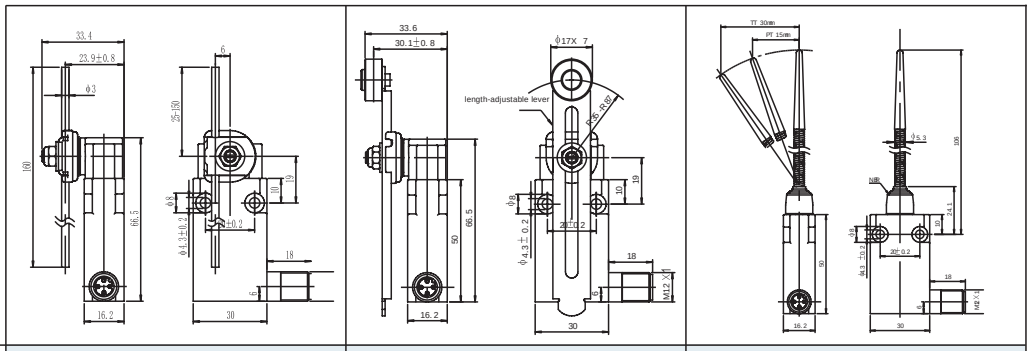
SN31 series



Contact block	Zb							
SP	⊖	snap action	SN3131-SP	1NO+1NC	SN3104-SP	1NO+1NC	SN3104-SP-S	1NO+1NC
SL	⊖	slow action	SN3131-SL	1NO+1NC BBM	SN3104-SL	1NO+1NC BBM	SN3104-SL-S	1NO+1NC BBM

COMPACT LIMIT SWITCHES SN31 SERIES (20mm)

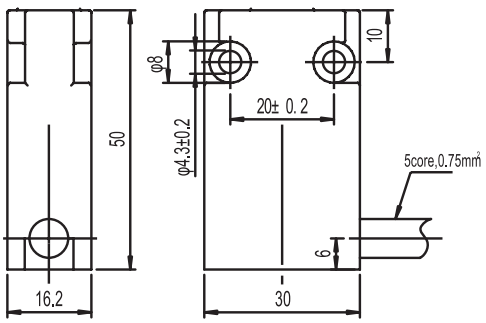
SN31 series



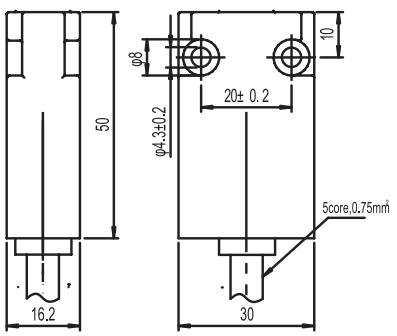
Contact block	Zb							
SP	⊕	snap action	SN3107-SP	1NO+1NC	SN3108-SP-S	1NO+1NC	SN3166-SP	1NO+1NC
SL	⊕	slow action	SN3107-SL	1NO+1NC BBM	SN3108-SL-S	1NO+1NC BBM	SN3166-SL	1NO+1NC BBM

Basic Body dimension:

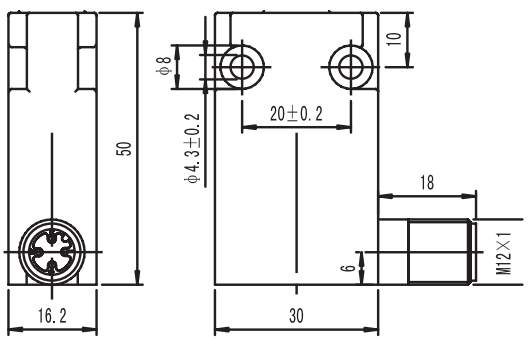
Suffix: -A (cable side exit)



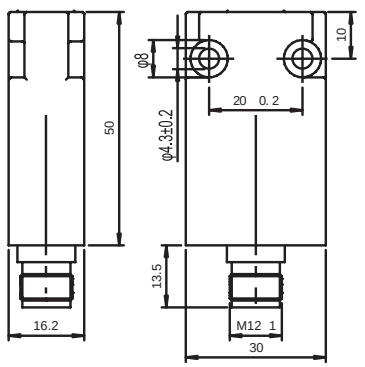
Suffix: -B (cable bottom exit)



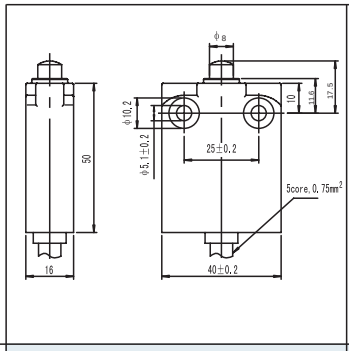
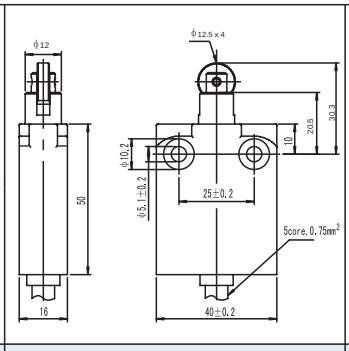
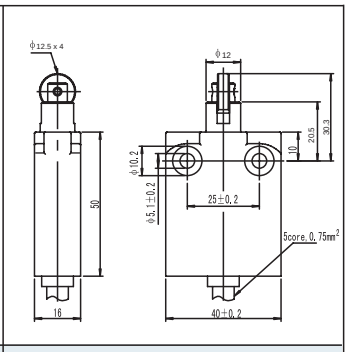
Suffix: -C (M12 quick connector side exit)

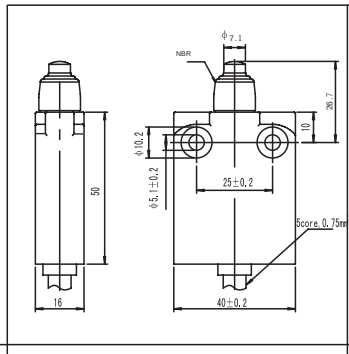
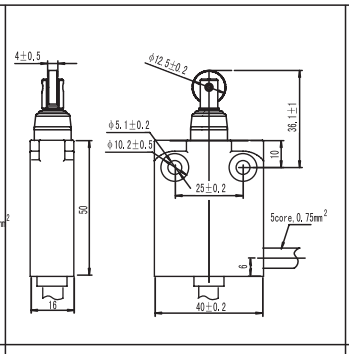
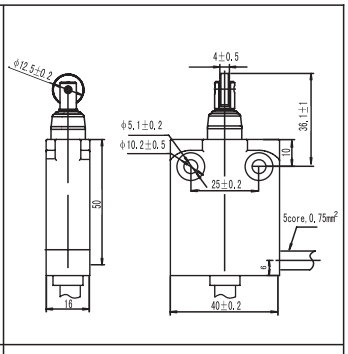


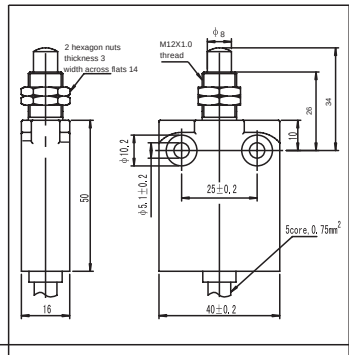
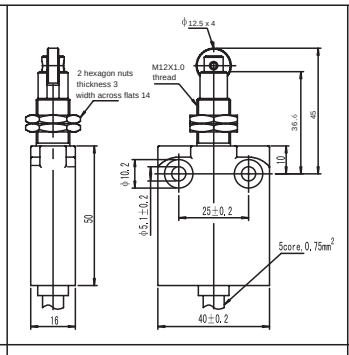
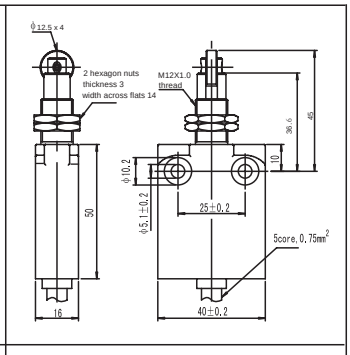
Suffix: -D (M12 Quick Connector bottom exit)

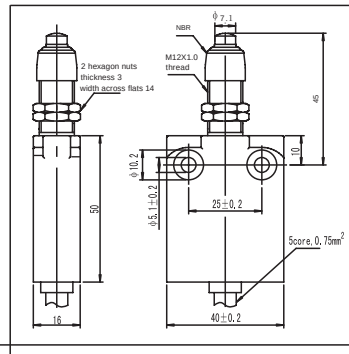
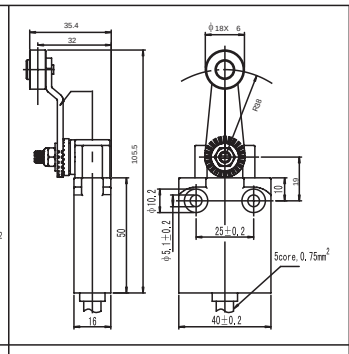
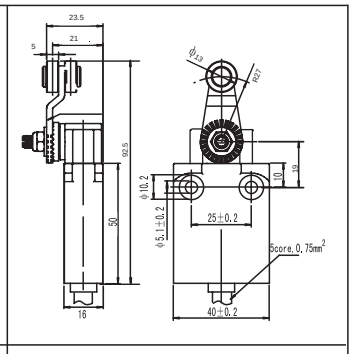


COMPACT LIMIT SWITCHES SN32 SERIES (25mm)

SN32 series								
								
Contact block	Zb							
SP	⊕	snap action	SN3201-SP	1NO+1NC	SN3212-SP	1NO+1NC	SN3222-SP	1NO+1NC
SL	⊕	slow action	SN3201-SL	1NO+1NC BBM	SN3212-SL	1NO+1NC BBM	SN3222-SL	1NO+1NC BBM

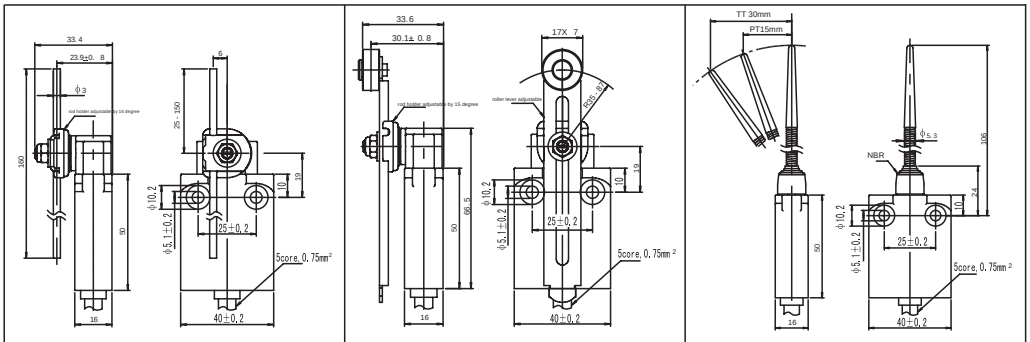
SN32 series								
								
Contact block	Zb							
SP	⊕	snap action	SN3211-SP	1NO+1NC	SN3202-SP	1NO+1NC	SN3203-SP	1NO+1NC
SL	⊕	slow action	SN3211-SL	1NO+1NC BBM	SN3202-SL	1NO+1NC BBM	SN3203-SL	1NO+1NC BBM

SN32 series								
								
Contact block	Zb							
SP	⊕	snap action	SN3221-SP	1NO+1NC	SN3232SP	1NO+1NC	SN3242-SP	1NO+1NC
SL	⊕	slow action	SN3221-SL	1NO+1NC BBM	SN3232-SL	1NO+1NC BBM	SN3242-SL	1NO+1NC BBM

SN32 series								
								
Contact block	Zb							
SP	⊕	snap action	SN3231-SP	1NO+1NC	SN3204SP	1NO+1NC	SN3204-SP-S	1NO+1NC
SL	⊕	slow action	SN3231-SL	1NO+1NC BBM	SN3204-SL	1NO+1NC BBM	SN3204-SL-S	1NO+1NC BBM

COMPACT LIMIT SWITCHES SN32 SERIES (25mm)

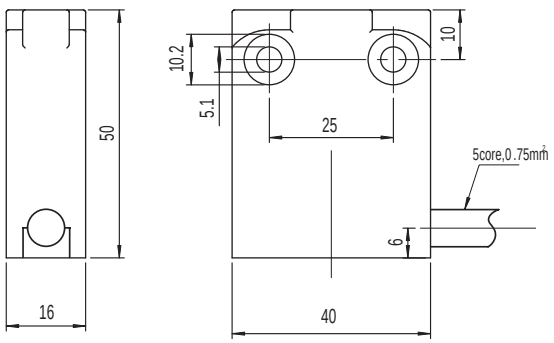
SN32 series



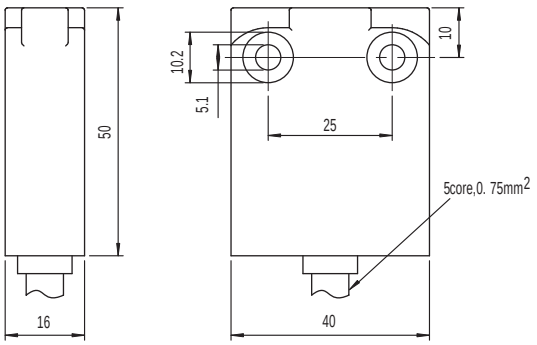
Contact block		Zb						
SP	⊕	snap action	SN3207-SP	1NO+1NC		SN3208-SP	1NO+1NC		SN3266-SP	1NO+1NC	
SL	⊕	slow action	SN3207-SL	1NO+1NC	BBM	SN3208-SL	1NO+1NC	BBM	SN3266-SL	1NO+1NC	BBM

Basic Body dimension:

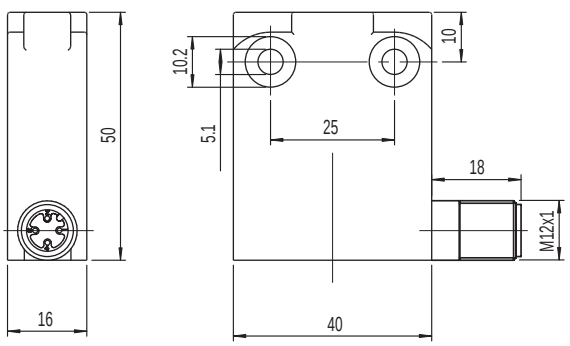
Suffix: -A (cable side exit)



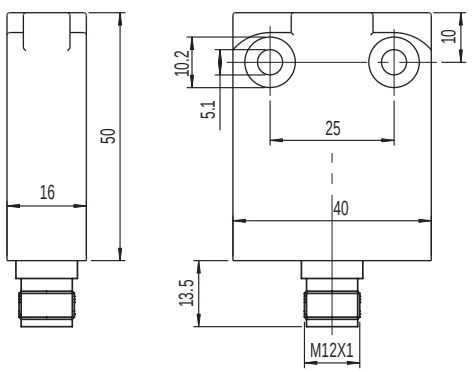
Suffix: -B (cable bottom exit)



Suffix: -C (M12 quick connector side exit)



Suffix: -D (M12 Quick Connector bottom exit)



COMPACT LIMIT SWITCHES: AZ-8 SERIES

Features

- Designed for applications of small mounting space
- Constructed with Metal based and plastic cover
- Wide range of actuators available
- Pre-molded flexible cable gland for fast and simple wiring termination
- Positive Opening of NC contacts
- Improved current carrying capacity to 10A

Specifications

Operating Speed	0.05mm-2m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Voltage/Current	10A/250VAC (EN60947-5-1)
Dielectric Strength	1000VAC for 1 min between current carrying parts 2000VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-20 to +60°C (-4 to 140°F)
Humidity	< 95%RH
Degree of Protection	IP65

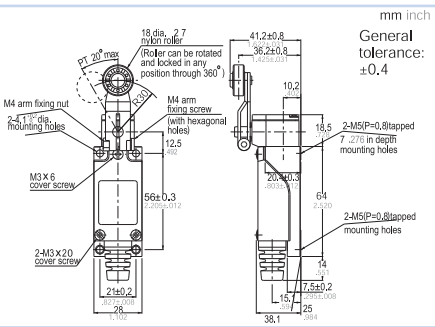
Definitions of Operating Characteristics

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

Dimensions

Unit:mm

AZ-8104

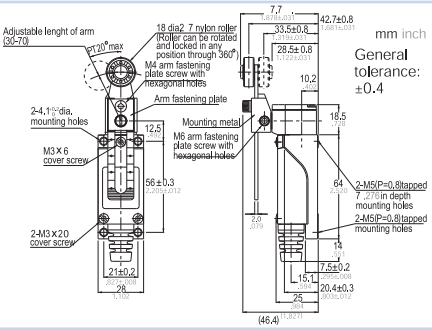


Operating Characteristics

Snap Action

OF_{max}	5.88N (600g)
RF_{min}	0.49N (50g)
PT_{max}	20°
OT_{min}	75°
MD_{max}	10°
TT	95°

AZ-8108

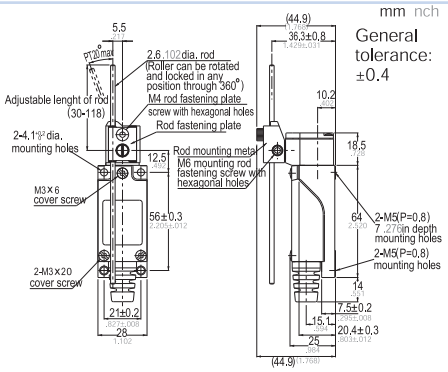


Operating Characteristics

Snap Action

OF_{max}	3.35~7.84N (342~800g)
RF_{min}	0.21~0.49N (21~50g)
PT_{max}	20°
OT_{min}	75°
MD_{max}	10°
TT	95°

AZ-8107

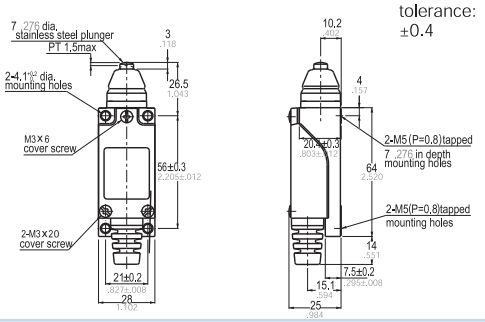


Operating Characteristics

Snap Action

OF_{max}	1.99~7.84N(203-800gf)
RF_{min}	0.12~0.49N
PT_{max}	20°
OT_{min}	75°
MD_{max}	10°
TT	95°

AZ-8111

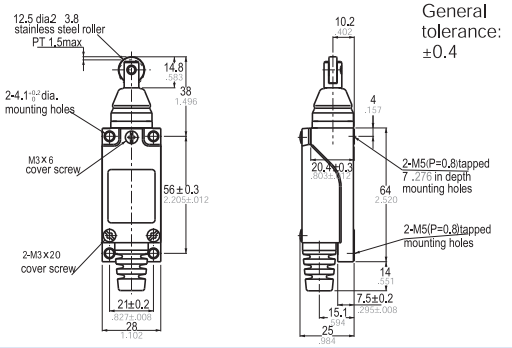


Operating Characteristics

Snap Action

OF_{max}	8.82N (900gf)
RF_{min}	1.47N
PT_{max}	1.5mm
OT_{min}	4mm
MD_{max}	0.7mm
TT	5.5mm

AZ-8112

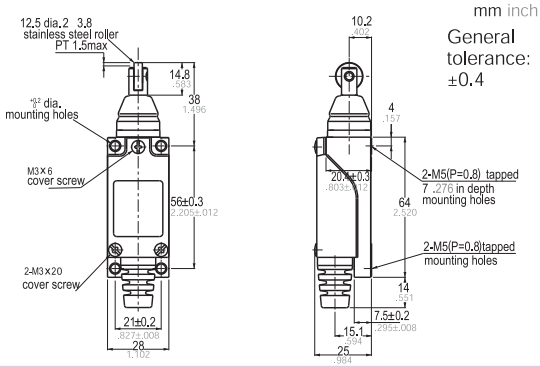


Operating Characteristics

Snap Action

OF_{max}	8.82N (900gf)
RF_{min}	1.47N
PT_{max}	1.5mm
OT_{min}	4mm
MD_{max}	0.7mm
TT	5.5mm

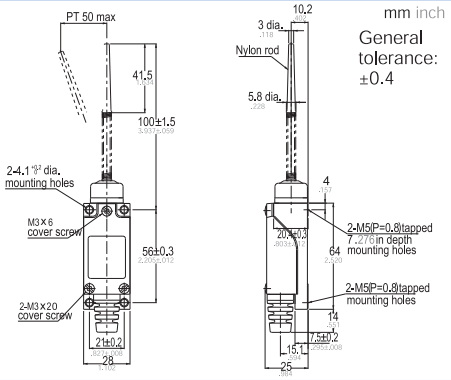
AZ-8122



Operating Characteristics

Snap Action

OF_{max}	8.82N (900gf)
RF_{min}	1.47N
PT_{max}	1.5mm
OT_{min}	4mm
MD_{max}	0.7mm
TT	5.5mm

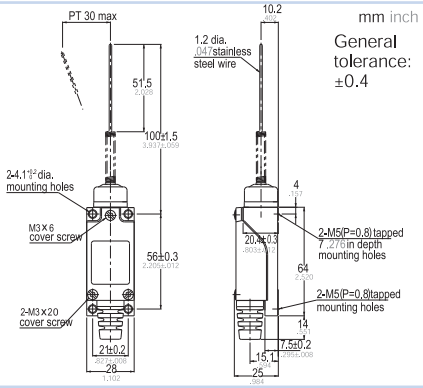


Operating Characteristics

Snap Action

OF$_{max}$	0.88N (90gf)
PT$_{max}$	30mm
OT$_{max}$	20mm

AZ-8166

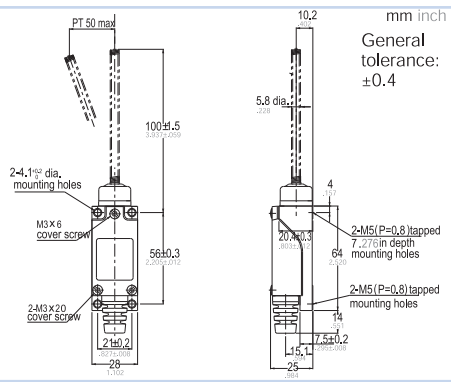


Operating Characteristics

Snap Action

OF$_{max}$	0.88N (90gf)
PT$_{max}$	30mm
OT$_{max}$	20mm

AZ-8169



Operating Characteristics

Snap Action

OF$_{max}$	0.88N (90gf)
PT$_{max}$	30mm
OT$_{max}$	20mm

AZ-8200

COMPACT LIMIT SWITCHES SN5 SERIES

Features

- Designed for applications with small mounting space
- Highly rigid construction (head and cover snugly fit in box)
- Wide range of actuators available
- Pre-molded flexible cable gland for fast and simple wiring termination

Specifications

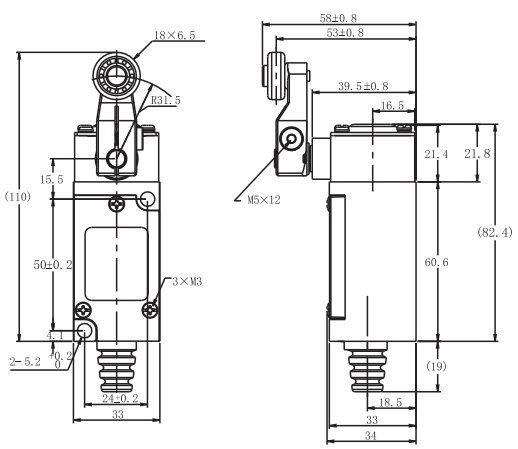
Operating Speed	0.05mm-2m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Voltage	250V AC (EN60947-5-1)
Rated Current	10A
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 1.0 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-10~+80°C (14~176°F)
Humidity	< 95%RH
Weight	130-190g(4.6-6.7oz)
Degree of Protection	IP65

Definitions of Operating Characteristics

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

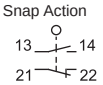
Dimensions

Unit:mm



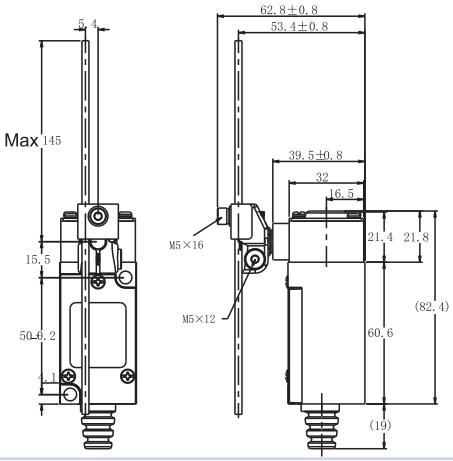
Operating Characteristics

Snap Action



- OF_{max} 7.35N
- RF_{min} 0.98N
- PT_{max} 20°
- OT_{min} 50°
- MD_{max} 12°

SN5104

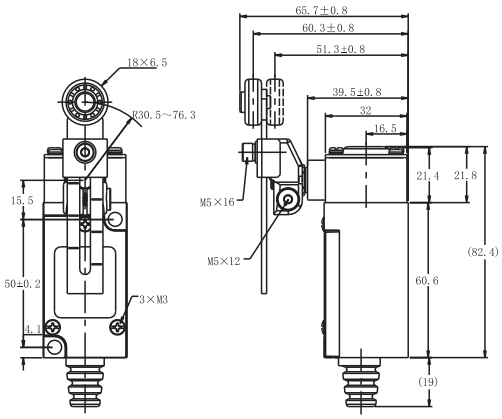


Operating Characteristics

Snap Action

- OF_{max} 7.35N
- RF_{min} 0.98N
- PT_{max} 20^o
- OT_{min} 50^o
- MD_{max} 12^o

SN5107

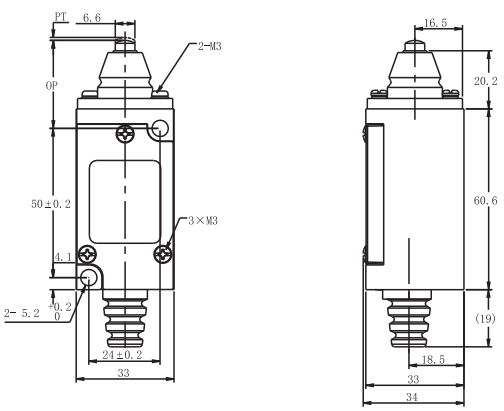


Operating Characteristics

Snap Action

- OF_{max} 7.35N
- RF_{min} 0.98N
- PT_{max} 20^o
- OT_{min} 50^o
- MD_{max} 12^o

SN5108



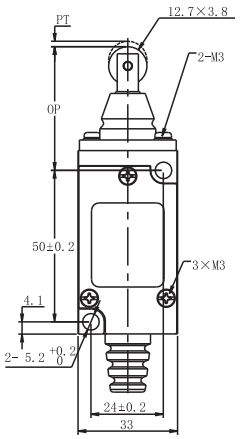
Operating Characteristics

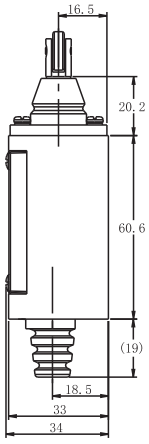
Snap Action

- OF_{max} 8.83N
- RF_{min} 1.47N
- PT_{max} 1.5mm
- OT_{min} 4mm
- MD_{max} 1mm

SN5111

COMPACT LIMIT SWITCHES SN5 SERIES



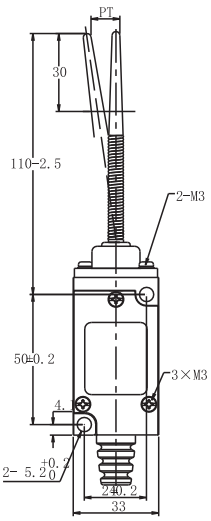


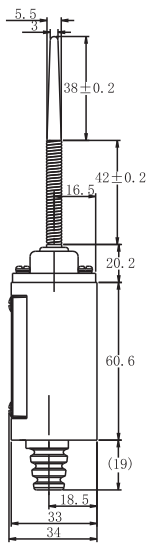
Operating Characteristics

Snap Action

- OFmax 8.83N
- RFmin 1.47N
- PTmax 1.5mm
- OTmin 4mm
- MDmax 1mm

SN5112





Operating Characteristics

Snap Action

- OFmax 1.47N
- PTmax 30mm

SN5166

SN1 Series Compact Precision Limit Switch

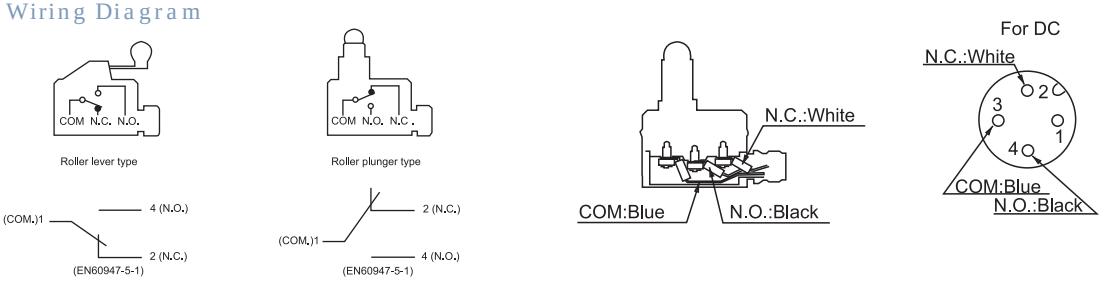
Features:

- Robust metal enclosure design
- Compact, space-saving and tightly gang mounting possible
- Positive opening of NC contacts
- High sealability, oil-resistant/Immersion-proof type
- Long mechanical life of 20 million operations
- High sensitivity. (M.D. =0.1mm)
- Gold plated contact available for low current applications
- M12 connector type available

Specifications

Operating Speed	0.02mm-0.5m/sec
Operating Frequency	120 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Electrical Rating	Standard Load Type (Silver contacts) 5A/250VAC or 5A/30VDC Low Current Type (Gold Plated Contacts) 0.1A/250VAC or 0.1A/30VDC
Dielectric Strength	1000VAC for 1 min between current carrying parts 2500VAC for 1 min between non-current carrying parts
Service Life	Mechanically 2 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-30~+80°C (-22~176°F)
Humidity	< 98%RH
Degree of Protection	IP67

Wiring Diagram

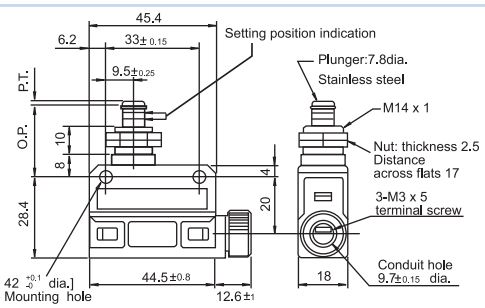


Definitions of Operating Characteristics

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

Dimensions

Unit:mm

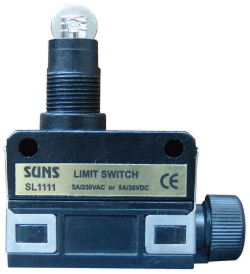


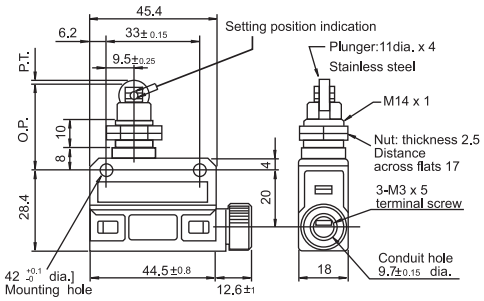
Operating Characteristics

- OF_{max} 11.8N
- RF_{min} 4.9N
- PT_{max} 1.5mm
- OT_{min} 3 mm
- MD_{max} 0.1mm
- OP 25.4±0.8mm

SN1110

SN1 Series Compact Precision Limit Switch

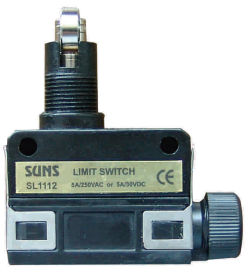


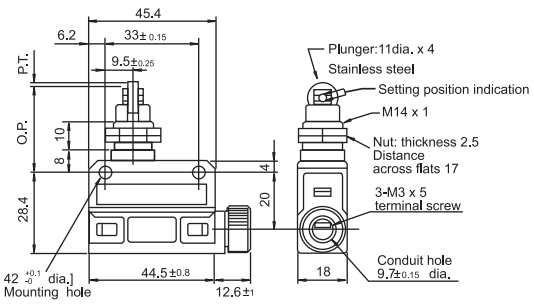


SN1111

Operating Characteristics

- OF_{max} 11.8N
- RF_{min} 4.9N
- PT_{max} 1.5mm
- OT_{min} 3 mm
- MD_{max} 0.1mm
- OP 31.4±0.8mm

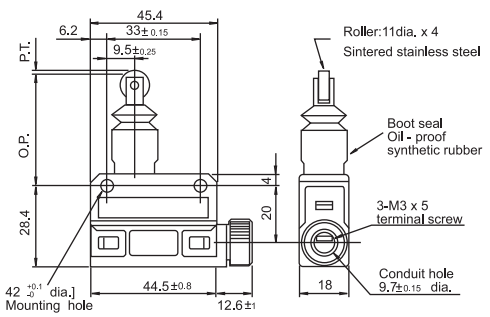




SN1112

Operating Characteristics

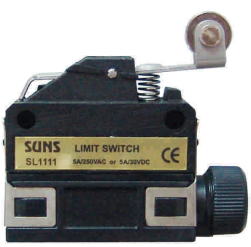
- OF_{max} 11.8N
- RF_{min} 4.9N
- PT_{max} 1.5mm
- OT_{min} 3 mm
- MD_{max} 0.1mm
- OP 31.4±0.8mm

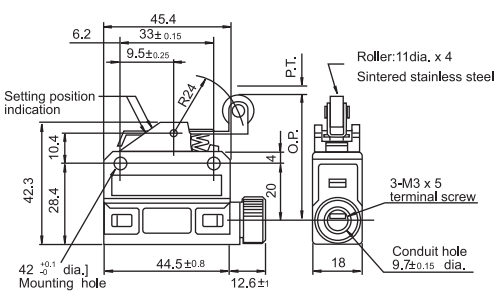


SN1121

Operating Characteristics

- OF_{max} 11.8N
- RF_{min} 4.9N
- PT_{max} 1.5mm
- OT_{min} 3 mm
- MD_{max} 0.1mm
- OP 41.4±0.8mm





SN1141

Operating Characteristics

- OF_{max} 4.0 N
- RF_{min} 0.78 N
- PT_{max} 2 mm
- OT_{min} 4 mm
- MD_{max} 0.3 mm
- OP 23.1±0.8mm

MINI ENCLOSED LIMIT SWITCHES SN7 SERIES

SPECIFICATIONS

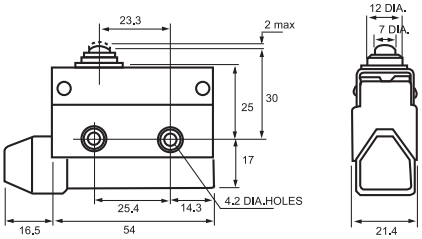
Operating Speed	0.05mm-0.5m/sec (panel mount plunger)
Operating Frequency	Mechanical: 120ops/min Electrical: 30 ops/min
Contact Resistance	<15MΩ
Insulation Resistance	>100MΩ min at 500V DC
Rated Current/Voltage	10A/250VAC
Operating Temperature	-20 ~ +60°(14~+140°F)
Dielectric Strength	1000V AC (For 1 min)between current carrying parts 2000V AC (For 1 min)between non-current carrying parts
Service Life	Mechanically 1.0x10^7(operations) Electrically 5 x10^5 (operations)
Humidity	<95%RH
Weight	~60g
Degree of Protection	IP64 (switch)

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

Dimensions

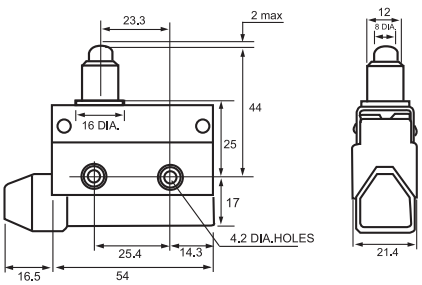
Unit:mm



Operating Characteristics

- OF_{max} 5.88N
- RF_{min} 0.98N
- PT_{max} 2.0mm
- OT_{min} 0.8mm
- MD_{max} 0.8mm
- OP 30±0.8mm

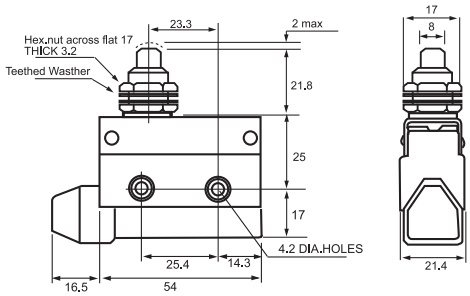
SN7100



Operating Characteristics

- OF_{max} 5.88N
- RF_{min} 0.98N
- PT_{max} 2.0mm
- OT_{min} 5.0mm
- MD_{max} 0.8mm
- FP_{max} 46mm
- OP 44±1.2mm

SN7110

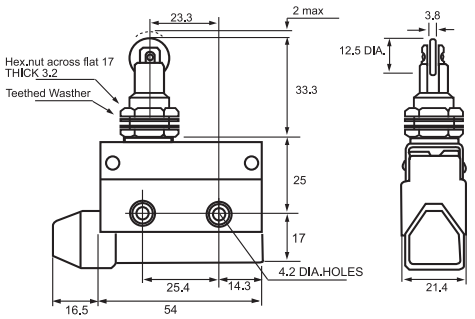


Operating Characteristics

- OF_{max} 5.88N
- RF_{min} 0.98N
- PT_{max} 2.0mm
- OT_{min} 6.0mm
- MD_{max} 0.8mm
- FP_{max} 23.8
- OP 21.8±0.8mm

SN7310

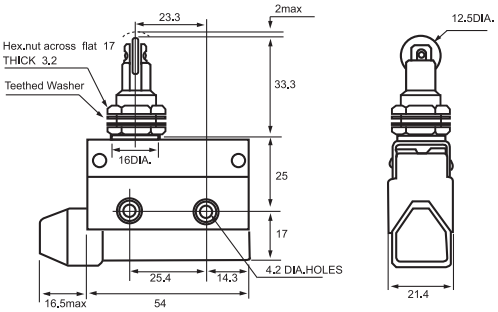
MINI ENCLOSED LIMIT SWITCHES SN7 SERIES



SN7311

Operating Characteristics

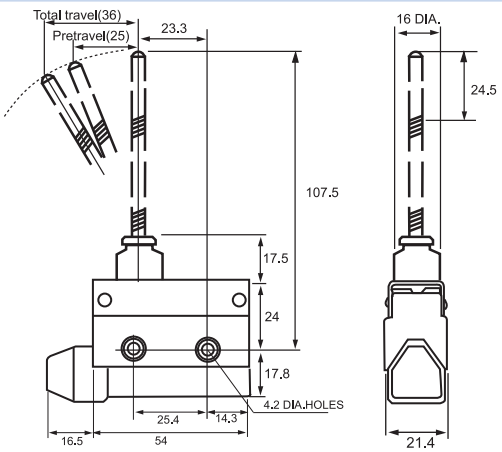
- OF$_{max}$ 5.88N
- RF$_{min}$ 0.98N
- PT$_{max}$ 2.0mm
- OT$_{min}$ 6.0mm
- MD$_{max}$ 0.8mm
- FP$_{max}$ 35.3mm
- OP 33.3±1.2mm



SN7312

Operating Characteristics

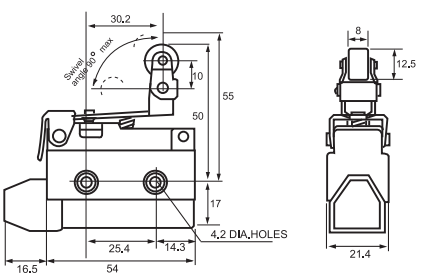
- OF$_{max}$ 5.88N
- RF$_{min}$ 0.98N
- PT$_{max}$ 2.0mm
- OT$_{min}$ 6.0mm
- MD$_{max}$ 0.8mm
- FP$_{max}$ 35.3mm
- OP 33.3±1.2mm



SN7166

Operating Characteristics

- OF$_{max}$ 1.18N
- PT$_{max}$ 25mm
- OT$_{min}$ 11mm
- OP 36mm



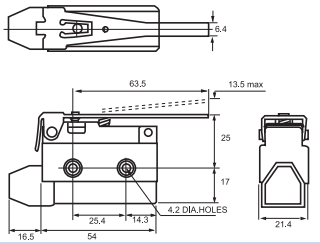
SN7144

Operating Characteristics

- OFmax 2.75N
- RFmin 0.98N
- PTmax 6.5mm
- OTmin 2.0mm
- MDmax 1.5mm
- FPmax 56mm
- OP 50±1.6mm

MINI ENCLOSED LIMIT SWITCHES SN7 SERIES

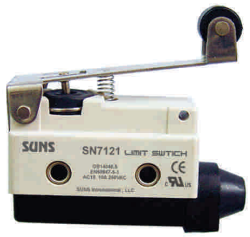
SN7120

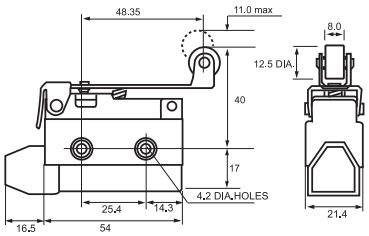


Operating Characteristics

- OF_{max} 1.47N
- RF_{min} 0.39N
- PT_{max} 13.5mm
- OT_{min} 4.0mm
- MD_{max} 3.2mm
- FP_{max} 38.5mm
- OP 25±2.0mm

SN7121

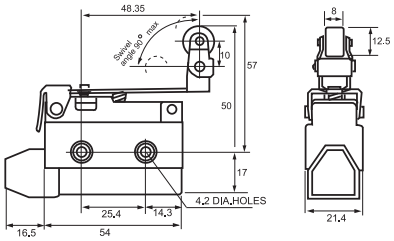




Operating Characteristics

- OF_{max} 1.77N
- RF_{min} 0.49N
- PT_{max} 11.0mm
- OT_{min} 3.0mm
- MD_{max} 2.4mm
- FP_{max} 51mm
- OP 40±1.9mm

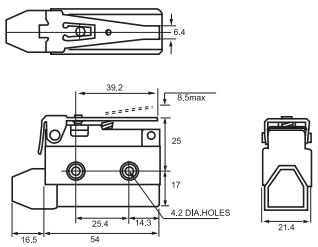
SN7124



Operating Characteristics

- OF_{max} 2.16N
- RF_{min} 0.59N
- PT_{max} 11.0mm
- OT_{min} 3.0mm
- MD_{max} 2.4mm
- FPmax 57
- OP 50±2.0mm

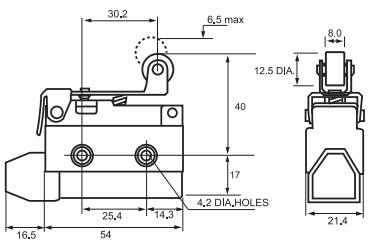
SN7140



Operating Characteristics

- OF_{max} 2.16N
- RF_{min} 0.59N
- PT_{max} 8.5mm
- OT_{min} 2.5mm
- MD_{max} 2.0mm
- FP_{max} 33.5mm
- OP 25±1.3mm

SN7141



Operating Characteristics

- OF_{max} 2.35N
- RF_{min} 0.87N
- PT_{max} 6.5mm
- OT_{min} 2.0mm
- MD_{max} 1.5mm
- FP_{max} 46.5mm
- OP 40±1.6mm

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

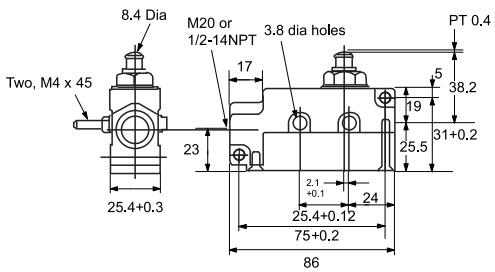
Specifications

Operating Speed	0.02mm-0.5m/sec
Operating Frequency	Mechanical: 120ops/min Electrical: 20 ops/min
Insulation Resistance	>100MΩ@500V DC
Contact Resistance	<25mΩ
Rated Current/Voltage (UL file E240199)	SN91: 15A, 125/250/480VA; 1/8HP/125VAC, 1/4HP/250VAC SN92: 20A, 125/250/480VA; 1HP/125VAC, 2HP/250VAC SN93: 25A, 125/250/480VA; 1HP/125VAC, 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 x10^7 (operations) Electrically 5 x10^5 (operations)
Operating Temperature	-25~+80°C (-13~176°F)
Humidity	< 95%RH
Degree of Protectiion	IP65

Dimensions

Unit:mm

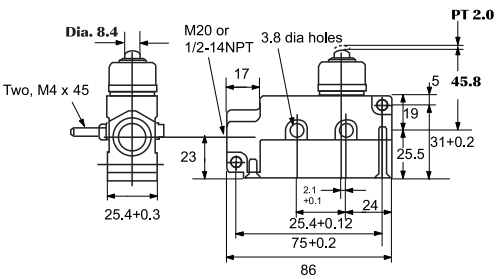
SN91-Q11
SN92-Q11
SN93-Q11



Operating Characteristics

- OF_{max} 250 to 350gf
- RF_{min} 114gf
- PT_{max} 0.4mm
- OT_{min} 5.5mm
- MD_{max} 0.05mm
- OP 38.2± 0.8mm

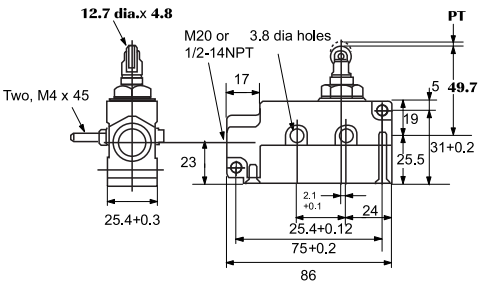
SN91-N11
SN92-N11
SN93-N11



Operating Characteristics

- OF_{max} 800gf
- RF_{min} 240gf
- PT_{max} 2mm
- OT_{min} 5mm
- MD_{max} 0.1mm
- OP 45.8± 0.8mm

SN91-Q12
SN92-Q12
SN93-Q12



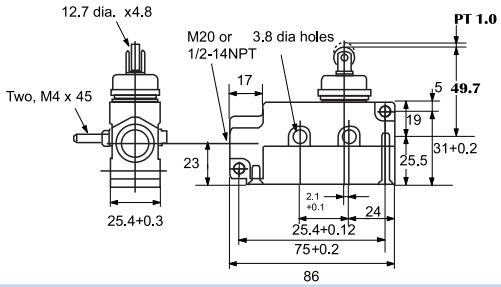
Operating Characteristics

- OF_{max} 250 to 350gf
- RF_{min} 114gf
- PT_{max} 0.5mm
- OT_{min} 3.6mm
- MD_{max} 0.05mm
- OP 49.7± 1mm

* Add suffix: -A for 1/2NPT -B for PG13.5 -C for M20x1.5

ENCLOSED LIMIT SWITCHES SN9 SERIES

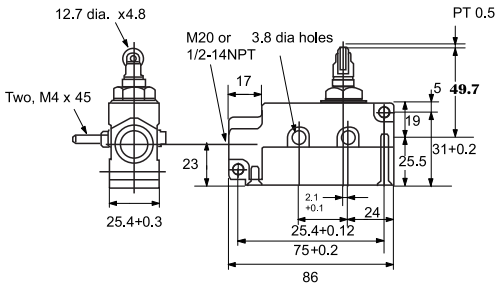
SN91-N12
SN92-N12
SN93-N12



Operating Characteristics

- OFmax 500gf
- RFmin 100gf
- PTmax 1mm
- OTmin 3.5mm
- MDmax 0.12mm
- OP 49.7± 0.8mm

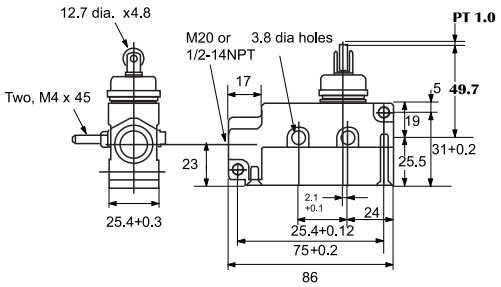
SN91-Q22
SN92-Q22
SN93-Q22



Operating Characteristics

- OFmax 250 to 350gf
- RFmin 114gf
- PTmax 0.5mm
- OTmin 3.6mm
- MDmax 0.05mm
- OP 49.7± 1mm

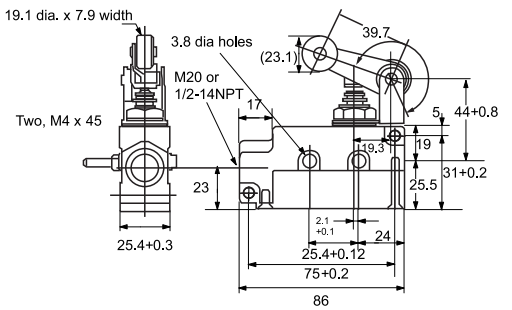
SN91-N22
SN92-N22
SN93-N22



Operating Characteristics

- OFmax 500gf
- RFmin 100gf
- PTmax 1mm
- OTmin 3.5mm
- MDmax 0.12mm
- OP 49.7± 0.8mm

SN91-Q62
SN92-Q62
SN93-Q62



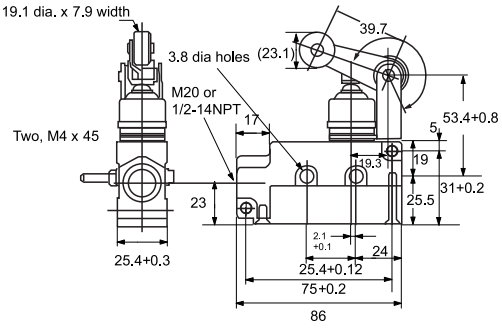
Operating Characteristics

- OFmax 570gf
- RFmin 170gf
- PTmax 4mm
- OTmin 6mm
- MDmax 0.4mm

* Add suffix: -A for 1/2NPT -B for PG13.5 -C for M20x1.5

ENCLOSED LIMIT SWITCHES SN9 SERIES

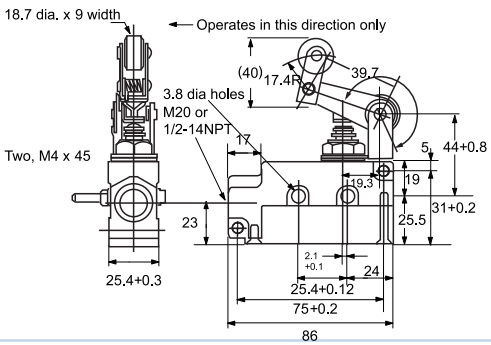
SN91-N62
SN92-N62
SN93-N62



Operating Characteristics

- OFmax 640gf
- RFmin 230gf
- PTmax 5mm
- OTmin 6mm
- MDmax 0.4mm

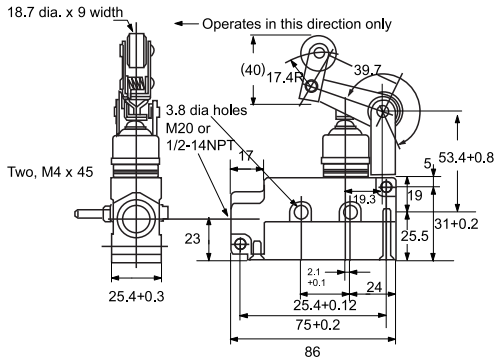
SN91-Q63
SN92-Q63
SN93-Q63



Operating Characteristics

- OFmax 570gf
- RFmin 170gf
- PTmax 4mm
- OTmin 6mm
- MDmax 0.4mm

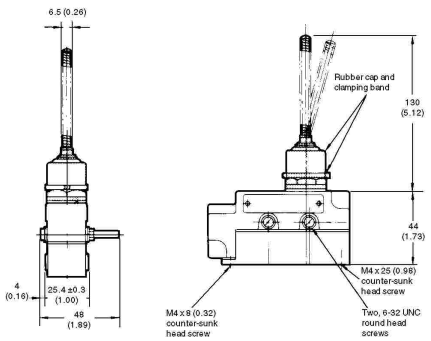
SN91-N63
SN92-N63
SN93-N63



Operating Characteristics

- OFmax 640gf
- RFmin 230gf
- PTmax 5mm
- OTmin 6mm
- MDmax 0.4mm

SN91-N66
SN92-N66
SN93-N66



Operating Characteristics

- OFmax 150gf
- PTmax 15 degree

* Add suffix: -A for 1/2NPT -B for PG13.5 -C for M20x1.5

GENERAL-PURPOSE MICRO SWITCHES Z-15 SERIES

Specifications

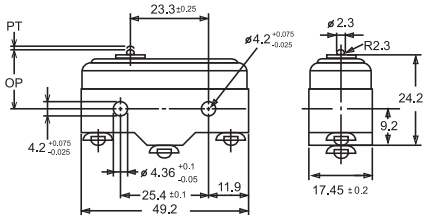
Operating Frequency	Mechanical 240 ops/min Electrical 20 ops/min
Service Life	Mechanically 1.0 x10^6 (operations) Electrically 5 x10^5 (operations)
Rated Voltage/Current	15A, 125/250/480VAC
Rated Insulation Voltage	600VAC
Operating Temperature	-20~+80°C (-4~176°F)
Dielectric Strength	2500VAC 50/60Hz (For 1 min)

Definitions of Operating Characteristics

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

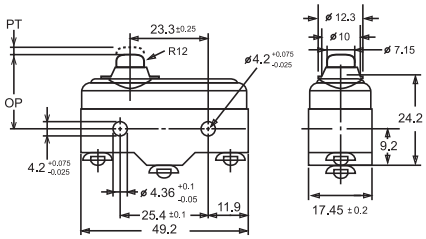
Dimensions

Unit:mm



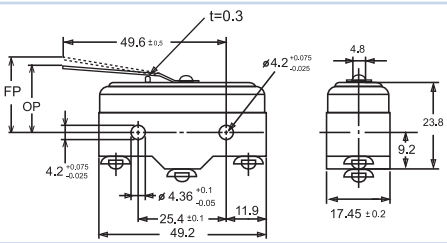
Operating Characteristics
- OFmax 3.43N
- RFmin 1.12N
- PTmax 0.4mm
- OTmin 0.13mm
- MDmax 0.05mm
- OP 15.9±0.4mm

Z-15G



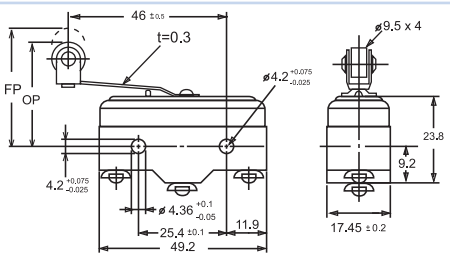
Operating Characteristics
- OFmax 3.43N
- RFmin 1.12N
- PTmax 0.4mm
- OTmin 1.6mm
- MDmax 0.05mm
- OP 21.5±0.5mm

Z-15GD



Operating Characteristics
- OFmax 1.47N
- RFmin 0.14N
- PTmax 4mm
- OTmin 1.6mm
- MDmax 1.3mm
- FP 20.6mm
- OP 17.4±0.8mm

Z-15GL

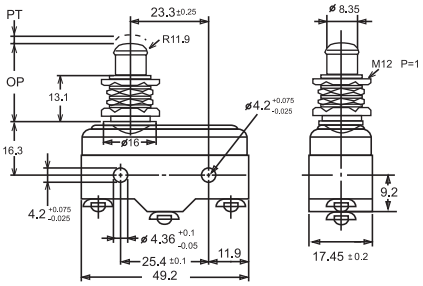


Operating Characteristics
- OFmax 1.47N
- RFmin 0.14N
- OTmin 1.6mm
- PTmax 4mm
- MDmax 1.3mm
- FP 31.8mm
- OP 28.6±0.8mm

Z-15GL2

GENERAL-PURPOSE MICRO SWITCHES Z-15 SERIES

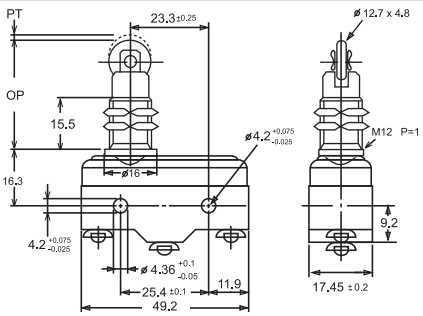
Z-15GQ



Operating Characteristics

- OF_{max} 3.43N
- RF_{min} 1.12N
- PT_{max} 0.4mm
- OT_{min} 5.5mm
- MD_{max} 0.05mm
- OP 21.8±0.8mm

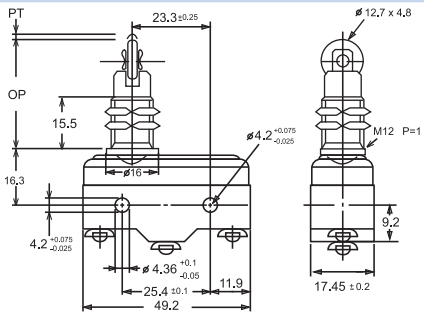
Z-15GQ22



Operating Characteristics

- OF_{max} 3.43N
- RF_{min} 1.12N
- PT_{max} 0.4mm
- OT_{min} 3.58mm
- MD_{max} 0.05mm
- OP 33.4±1.2mm

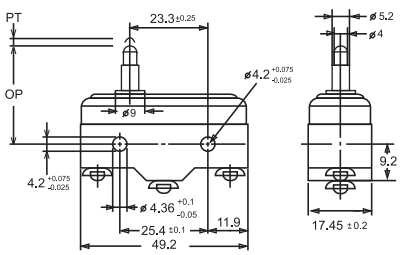
Z-15GQ21



Operating Characteristics

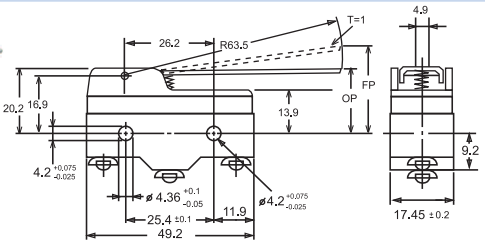
- OF_{max} 3.43N
- RF_{min} 1.12N
- PT_{max} 0.4mm
- OT_{min} 3.58mm
- MD_{max} 0.05mm
- OP 33.4±1.2mm

Z-15GS



Operating Characteristics

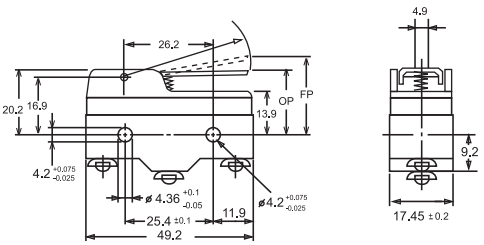
- OFmax 3.43N
- RFmin 1.12N
- PTmax 0.4mm
- OTmin 1.6mm
- MDmax 0.05mm
- OP 28.2±0.6mm



Z-15GW

Operating Characteristics

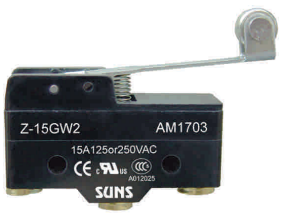
- OF_{max} 0.69N
- RF_{min} 0.14N
- PT_{max} 10mm
- OT_{min} 5.6mm
- MD_{max} 2mm
- FP_{max} 28.2mm
- OP 19.1±0.7mm

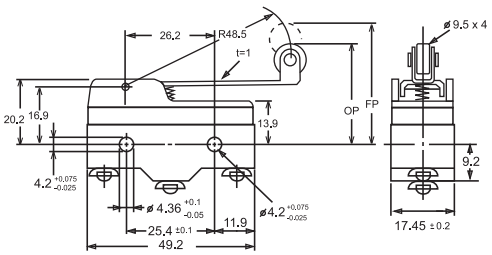


Z-15GW1

Operating Characteristics

- OF_{max} 1.03N
- RF_{min} 0.21N
- PT_{max} 6.6mm
- OT_{min} 3.7mm
- MD_{max} 0.85mm
- FP_{max} 24.5mm
- OP 18.4±0.5mm

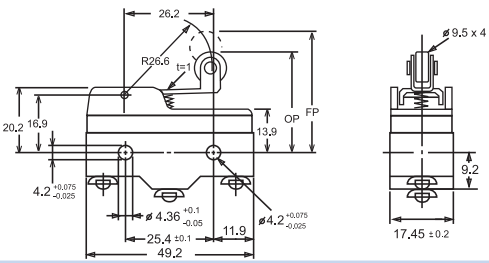




Z-15GW2

Operating Characteristics

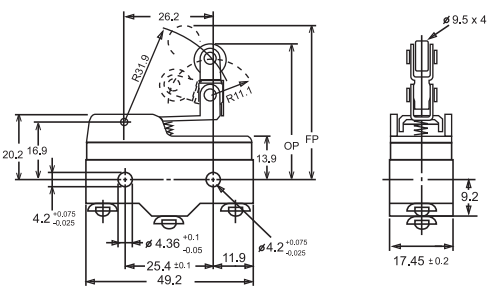
- OF_{max} 0.98N
- RF_{min} 0.21N
- PT_{max} 7.1mm
- OT_{min} 4mm
- MD_{max} 1.02mm
- FP_{max} 36.5mm
- OP 30.2±0.8mm



Z-15GW22

Operating Characteristics

- OF_{max} 1.57N
- RF_{min} 0.41N
- PT_{max} 2.7mm
- OT_{min} 2.4
- MD_{max} 0.8mm
- FP_{max} 32.5mm
- OP 30.2±0.4mm



Z-15GW2277

Operating Characteristics

- OF_{max} 1.67N
- RF_{min} 0.41N
- PT_{max} 3mm
- OT_{min} 2.4mm
- MD_{max} 0.8mm
- FP_{max} 43.5mm
- OP 41.3±0.8mm

GENERAL-PURPOSE MICRO SWITCHES
Z-20G, Z-25G SERIES

Specifications

Operating Frequency	Mechanical 240 ops/min Electrical 20 ops/min	
Service Life	Mechanically 1.0 x10^6 (operations) Electrically 5 x10^5 (operations)	
Rated Voltage/Current	Z-20G: 20A, 125/250/480 Vac (Res) 1 HP / 2 HP, 125/250Vac 0.5/0.25A, 125/250Vdc	Z-25G: 20A, 125/250/480 Vac (Res) 1 HP / 2 HP, 125/250Vac 0.5/0.25A, 125/250Vdc
Operating Temperature	-20~+80°C (-4~176°F)	
Dielectric Strength	2500VAC 50/60Hz (For 1 min)	

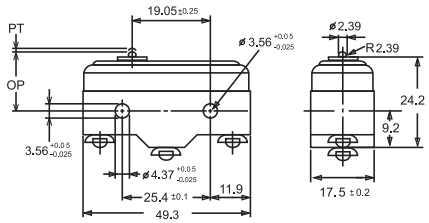
Definitions of Operating Characteristics

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

Dimensions

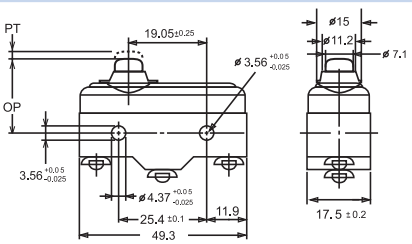
Unit:mm

Z-20G
Z-25G



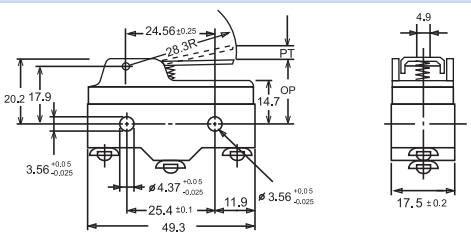
Operating Characteristics
- OFmax 3.89-6.12N
- RFmin 2.78N
- PTmax 1.27mm
- OTmin 0.25mm
- MDmax 0.05~0.19mm
- OP 16.26±0.4mm

Z-20GD
Z-25GD



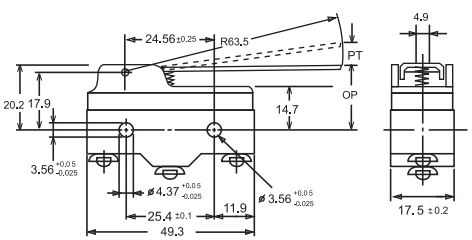
Operating Characteristics
- OFmax 3.89-6.12N
- RFmin 2.78N
- PTmax 1.27mm
- OTmin 2.39mm
- MDmax 0.05~0.19mm
- OP 26.2±0.5mm

Z-20GW1
Z-25GW1



Operating Characteristics
- OFmax 1.57N
- RFmin 0.41N
- PTmax 6.5mm
- OTmin 1.2mm
- MDmax 1.2mm
- OP 19±0.8mm

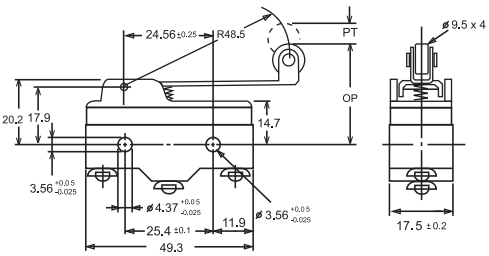
Z-20GW
Z-25GW



Operating Characteristics
- OFmax 0.7N
- RFmin 0.14N
- PTmax 1.98mm
- OTmin 15.88mm
- MDmax 2.27mm
- OP 19.1±0.8mm

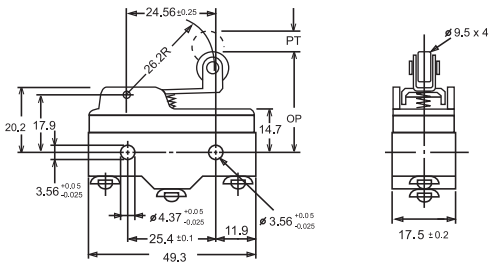
GENERAL-PURPOSE MICRO SWITCHES
Z-20G, Z-25G SERIES

Z-20GW2
Z-25GW2



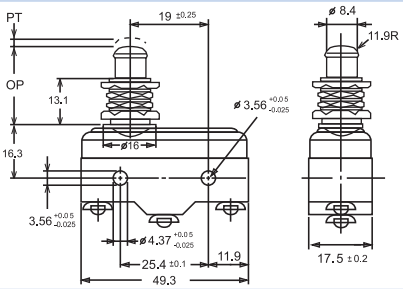
Operating Characteristics
- OF$_{max}$ 0.97N
- RF$_{min}$ 0.14N
- PT$_{max}$ 11.89mm
- OT$_{min}$ 1.52mm
- MD$_{max}$ 2.16mm
- OP 30±0.76mm

Z-20GW22
Z-25GW22



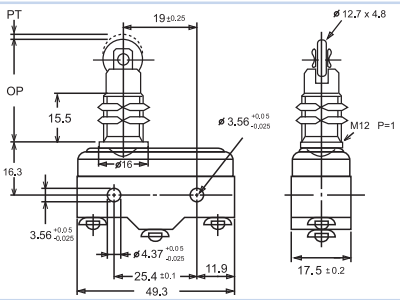
Operating Characteristics
- OF$_{max}$ 1.67N
- RF$_{min}$ 0.42N
- PT$_{max}$ 6.35mm
- OT$_{min}$ 0.76mm
- MD$_{max}$ 1.14mm
- OP 29.77±0.76mm

Z-20GQ
Z-25GQ



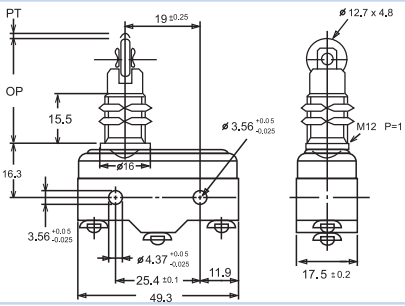
Operating Characteristics
- OF$_{max}$ 2.78~6.12N
- RF$_{min}$ 2.78N
- PT$_{max}$ 1.27mm
- OT$_{min}$ 5.56mm
- MD$_{max}$ 0.05~0.19mm
- OP 21.8±0.8mm

Z-20GQ22
Z-25GQ22



Operating Characteristics
- OF$_{max}$ 2.78~6.12N
- RF$_{min}$ 2.78N
- PT$_{max}$ 1.27mm
- OT$_{min}$ 3.58mm
- MD$_{max}$ 0.05~0.19mm
- OP 33.4±1.2mm

Z-20GQ21
Z-25GQ21



Operating Characteristics
- OF$_{max}$ 2.78~6.12N
- RF$_{min}$ 2.78N
- PT$_{max}$ 1.27mm
- OT$_{min}$ 3.58mm
- MD$_{max}$ 0.05~0.19mm
- OP 33.4±1.2mm

Miniature Basic Switch V Series

Ordering Code:

V- 15 - G - ■ - ■ - ■ - ■

15	
10	10 A
15	15 A

G	
G	Standard
H	High temp.

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

Max. Operating Force

none	50g
1	25g
2	100g
3	125g
4	200g
5	300g
6	400g

Hinge Position

none	Internal/far from plunger
T	Internal/near plunger
M	External/far from plunger
K	External/near plunger

Mounting Hole

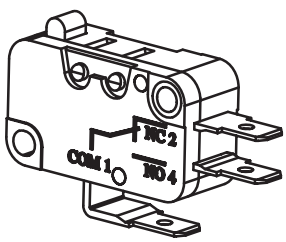
none	3.1mm
U	2.9mm

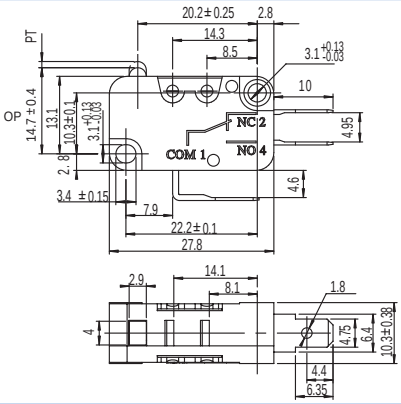
Specifications

Operating Speed	0.1 mm to 1 m/s (plunger models without levers)
Operating Frequency	Mechanical 600 ops/min Electrical 60 ops/min
Service Life	Mechanically 1.0 x10^7 (operations) Electrically V-10: 200,000 operation min. V-15: 100,000 operation min.
Rated Voltage/Current	V-10 series 10A 1/2HP 125/250AV V-15 series 15A 1/2HP 125/250AV
Operating Temperature	Standard -40~+85°C High temperature -40~+150°C
Dielectric Strength	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
Insulation Resistance	100MΩ min. (at 500 VDC)
Contact Resistance	30mΩ max (initial values)
Degree of Protection	IEC IP00

Definitions of Operating Characteristics

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

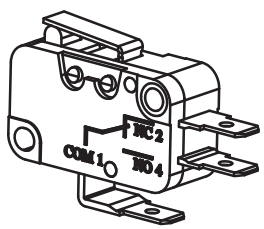


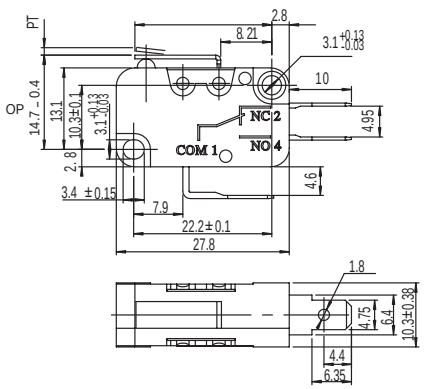


Operating Characteristics

OF (Max)	25/ 50/ 100/ 125/ 200/ 300/ 400g
RF (Min)	8.4/ 16/ 33/ 42/ 66/ 100/ 133g
PT (Max)	1.19 mm
OT (Min)	1.27 mm
MD (Max)	0.25 mm
OP	14.7 ± 0.4 mm

V-15G



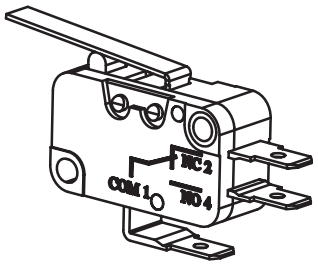


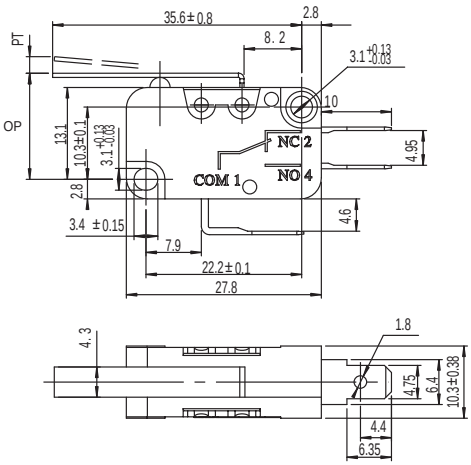
Operating Characteristics

OF (Max)	25/ 50/ 100/ 125/ 200/ 300/ 400g
RF (Min)	8.4/ 16/ 33/ 42/ 66/ 100/ 133g
PT (Max)	1.57 mm
OT (Min)	1.27 mm
MD (Max)	1.41 mm
OP	15.2 ± 0.5 mm

V-15G1

Miniature Basic Switch V Series

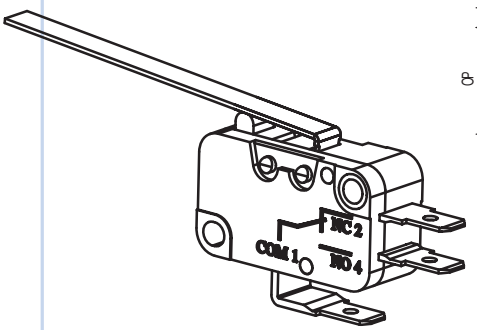


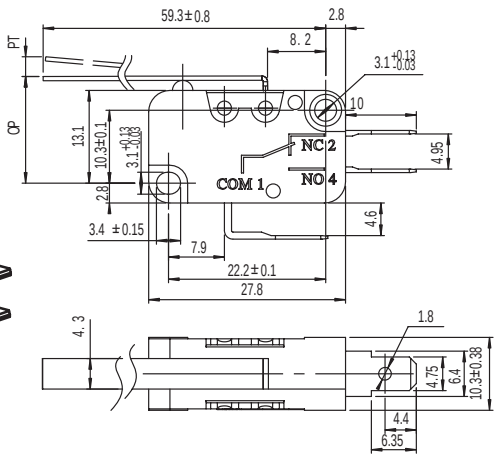


Operating Characteristics

OF (Max)	13/ 25/ 50/ 65/ 100/ 150/ 200g
RF (Min)	4/ 8/ 16/ 22/ 33/ 50/ 67 g
PT (Max)	3.18 mm
OT (Min)	2.16 mm
MD (Max)	0.76 mm
OP	15.2 ± 1.2 mm

V-15G2

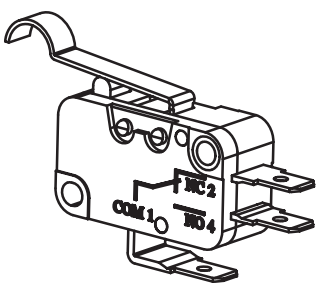


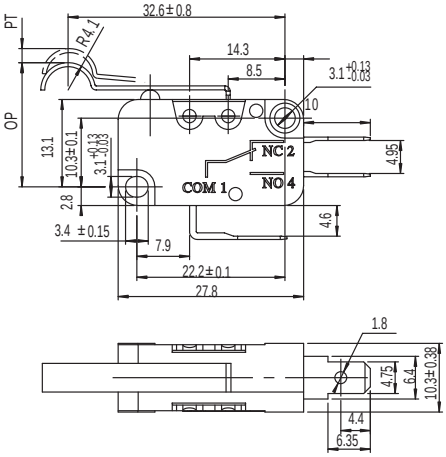


Operating Characteristics

OF (Max)	7/ 14/ 28/ 36/ 57/ 86/ 115g
RF (Min)	2.5/ 4.5/ 9.5/ 12/ 19/ 28/ 38g
PT (Max)	5.59 mm
OT (Min)	3.3 mm
MD (Max)	1.27 mm
OP	15.2 ± 2.6 mm

V-15G3



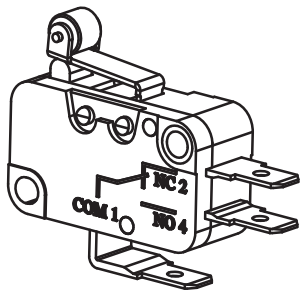


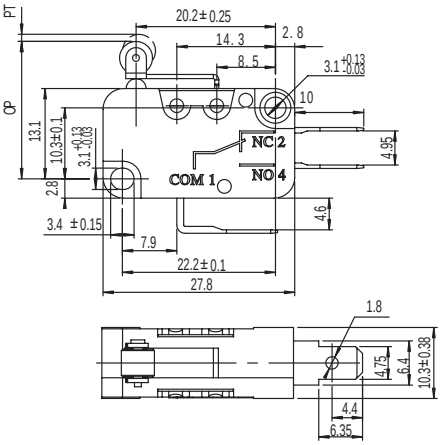
Operating Characteristics

OF (Max)	13/ 25/ 50/ 65/ 100/ 150/ 200g
RF (Min)	4/ 8/ 16/ 22/ 33/ 50/ 67 g
PT (Max)	3.3 mm
OT (Min)	2.3 mm
MD (Max)	0.5 mm
OP	18.7 ± 1.2 mm

V-15G4

Miniature Basic Switch V Series

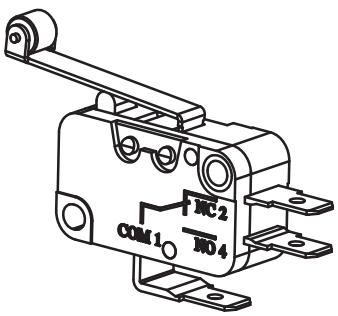


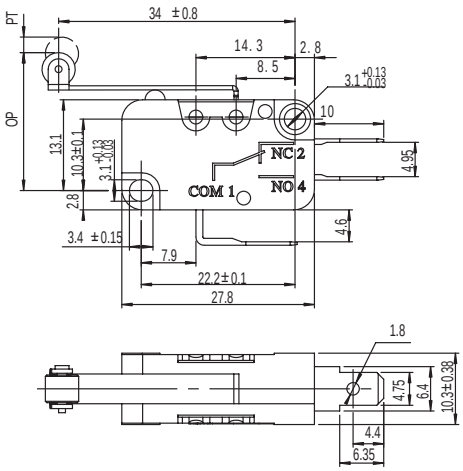


Operating Characteristics

OF (Max)	25/ 50/ 100/ 125/ 200/ 300/ 400g
RF (Min)	8.5/ 16/ 33/ 42/ 66/ 100/ 133g
PT (Max)	1.19 mm
OT (Min)	1.02 mm
MD (Max)	0.25 mm
OP	20.7 ± 0.6 mm

V-15G5

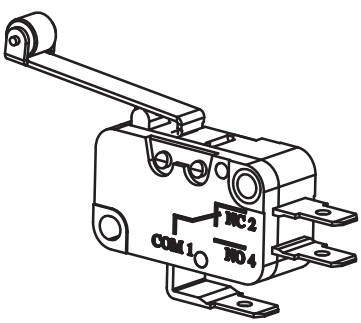


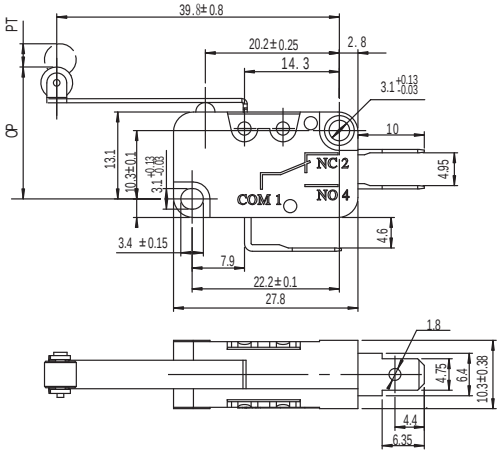


Operating Characteristics

OF (Max)	13/ 25/ 50/ 65/ 100/ 150/ 200g
RF (Min)	4/ 8/ 16/ 22/ 33/ 50/ 67 g
PT (Max)	3.18 mm
OT (Min)	2.16 mm
MD (Max)	0.76 mm
OP	20.7 ± 1.6 mm

V-15G6





Operating Characteristics

OF (Max)	10/ 20/ 38/ 50/ 77/ 115/ 154g
RF (Min)	3/ 6/ 12/ 16/ 25/ 38/ 50g
PT (Max)	5.08 mm
OT (Min)	3.05 mm
MD (Max)	1.02 mm
OP	20.7 ± 2.0 mm

V-15G6_T