

C Limit switch Micro switch

Summary of Limit switch and micro switch -----	162
Limit switch (HY-M900 / HY-LM900 series) -----	167
Limit switch (HY-LS800 series) -----	174
Compact limit switch (HY-L800 series) -----	178
Limit switch (ZCN-500 series) -----	183
Micro switch (HY-700 series) -----	187

INDUSTRIAL AUTOMATION



Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

Discontinued
Products

Limit switch / Micro switch

Summary of Limit switch and Micro switch

● Terminology explanation

■ Micro switch

It has a small contact gap and snap action tool. Also the contact tools that open/close with the rated movement and rated force are covered with the case and have an actuator on the outside. This is a compact size switch.

■ Limit switch

Limit Switch is enclosed in a case to protect a built-in basic switch from the external force, water, oil, gas, and dust.

■ Rating

Value that insures the characteristic and function of limit switch

■ Operation part

Mechanical device part that operates the actuator of limit switch

■ Inverting spring

Inverting spring is mechanical parts that switch the contact of limit switch. Sometimes called as running spring

■ Detecting object **INDUSTRIAL AUTOMATION**

The object, product, part and etc that operate the limit switch other than mechanical device.

■ Actuator

The part of a switch that is subjected to an external force, transfers that force to an internal spring mechanism and moves contacts to perform switching. It is normally called as pushbutton or lever.

■ Contact composition

Depending on the various usages, it forms electrical input/output circuit of contact.

There are 2 types in the limit switch just like an image below.

- SPDT (C contact)



- 2 circuit double positions(1a1b)



Summary of Limit switch and micro switch

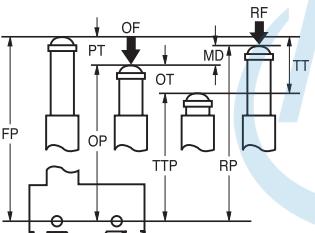
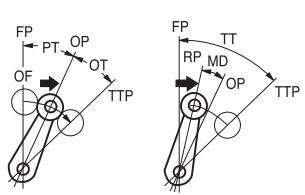
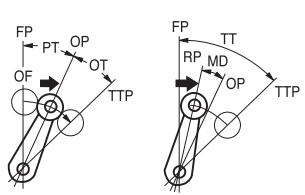
■ Mechanical life expectancy

Opening/closing life in the non electro state (After setting the rated value with the operation time)

■ Electrical life expectancy

Opening/closing life in the rated load (resistive load) (After setting the rated value with the operation time)

■ Operation characteristic

Definition of operation characteristic	Categories	Terminology	Symbol	Definition
	Force	Operating Force	O.F	Force that applied to the actuator in order to move from free position to the operation switch.
		Release Force	R.F	Force that applied to the actuator in order to move from operation limit position to the returning position
		Total travel Force	T.F	Force that applied to the actuator in order to move from operation position to the operation limit position.
		Pretravel	P.T	Travel distance or travel angle from free position of actuator to the operation position.
		Over travel	O.T	Travel distance or travel angle from operation position of actuator to the operation limit position.
		Movement Differential	M.D	Travel distance or travel angle from operation position of actuator to the returning position.
	Movement	Total travel	T.T	Travel distance or travel angle from free position of actuator to the operation limit position.
		Free Position	F.P	the position of actuator before applying force to the actuator from the outside
		Operating Position	O.P	the position of actuator when running contact is accurately reversed in the free position state once external force is applied to the actuator.
		Release Position	R.P	the position of actuator when running contact is accurately reversed from operation position state to the free position state by decreasing force applied to the actuator
		Total travel Position	T.T.P	the position of actuator when actuator reaches the actuator stopper.
	Position			

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

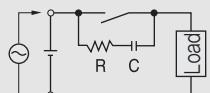
Discontinued
Products

Limit switch / Micro switch

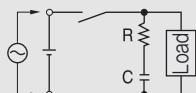
Precautions

Electrical precautions

- In the inductive load opening / closing circuit, there are cases when contact impairment occurs within the contact due to the surge and inrush current. Therefore, we recommend inserting the protective circuit just like an image provided in the below for the contact protection.



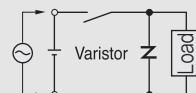
Usually applied when using d.c. R requires a lot of ohms. When using as an a.c. load capacity has to be small.
R : $10\ \Omega \sim 100\ \Omega$
C : $0.05 \sim 0.1\ \mu F$



d.c and a.c both possible.
R : $10\ \Omega$
C : $0.1 \sim 0.2\ \mu F$



Only a.c is possible. Please select the diode that can withstand reverse internal pressure sufficiently.

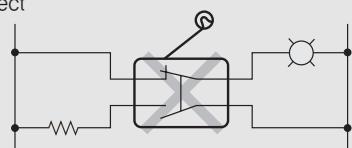


d.c and a.c both possible. Please select the Varistor 1.5 times bigger than power supply voltage.

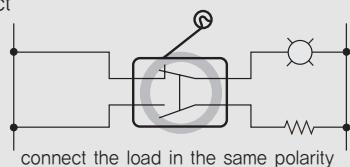
- Please do not connect different polarities from each other and different power from each other. Please do not design the circuit where a difference of voltage exists between contacts, otherwise it may result the contact welding.

Connection of different polarities from each other

Incorrect

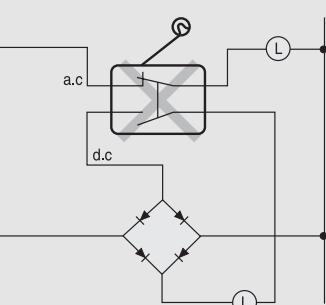


Correct



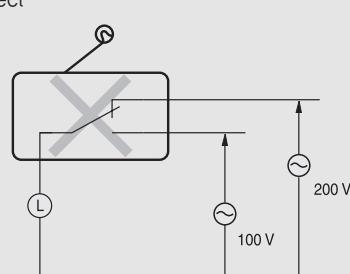
Connection of different power voltages from each other

Incorrect



Voltage trapped in between the contacts

Incorrect



Incorrect: using the switch electrical circuit (low voltage, low current)

Summary of Limit switch and Micro switch

- If bouncing or chattering of the contacts results and causes problems, take the following countermeasures. Insert an integral circuit and suppress the generation of pulse from the contact bouncing or chattering of the contacts so that it is less than the noise margin of the load.

■ Mechanical precautions

- The following graph indicates the relationship between operating force and stroke or stroke and contact force. In order to operate the Limit Switch with high reliability, it is necessary to use the Limit Switch within an appropriate contact force range. If the Limit Switch is used in a normally closed condition, the dog must be installed so that the actuator will return to the FP when the actuator is actuated by the dog. If the Limit Switch is used in a normally open condition, press the actuator to roughly 70% to 100% of the value specified for the OT (i.e., 60% to 80% of the TT).
- If the full stroke is set close to the OP or RP, it may result the contact instability, and it may not be possible to maintain high reliability. Incorrect operation will be easily occurred due to the vibration or shock. If the full stroke is set to the TTP, the actuator or switch may be damaged due to the inertia of the dog. Therefore, adjust the stroke with the mounting panel or the dog.
- The following graph shows an example of changes in contact force according to the stroke. The contact force near the OP or RP is unstable, and the Limit Switch cannot maintain high reliability. Furthermore, the Limit Switch cannot withstand the strong vibration or shock.

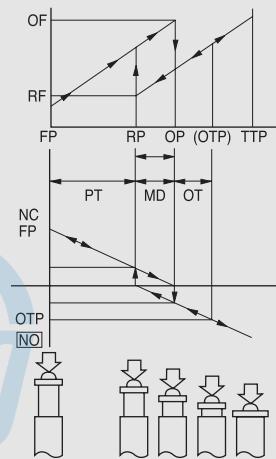
INDUSTRIAL AUTOMATION

■ Precautions when selecting

- If the operating speed is extremely low, the switching of the movable contact will become unstable, thus it may result the incorrect contact or contact weld.
- If the operating speed is extremely high, the Switch may break due to shock. If the switching frequency is high, the switching of the contacts cannot catch up with the switching frequency.

■ Precautions with the operation

- Carefully determine the position and shape of the dog or cam so that the actuator will not abruptly snap back, thus causing shock. In order to operate the Limit Switch at a comparatively high speed, use a dog or cam that keeps the Limit Switch turned ON for a sufficient time so that the relay or valve will be sufficiently energized. The method of operation, the shape of the cam or dog, the operating frequency, and the travel after operation have a large influence on the durability and operating accuracy of the Limit Switch. The cam or dog must be smooth considering the shape.



Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

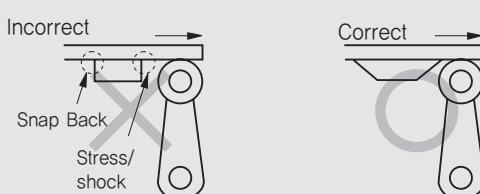
Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

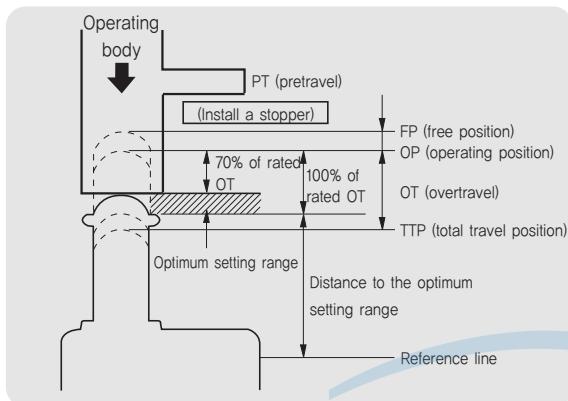
Control box
Cable connector

Discontinued
Products

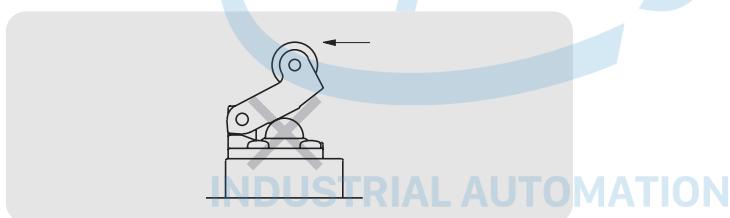


Limit switch / Micro switch

- Make sure that the actuator does not exceed the OT (overtravel) range, otherwise the Limit Switch may result the malfunction occurrence. (Cam stroke OT: 70~100%) When mounting the Limit Switch, be sure to adjust the Limit Switch carefully while considering the total movement of the actuator.

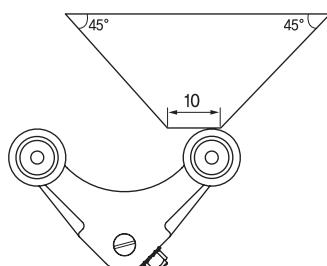
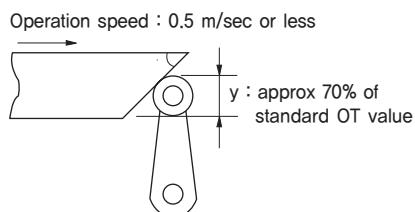


- Be sure to use the Limit Switch according to the characteristics of the actuator. If a roller arm lever actuator is used, do not attempt to actuate the Limit Switch in the direction shown in below.



● Dog design

- Before designing a dog, carefully consider the operating speed and angle of the dog and their relationship with the shape of the actuator. The optimum operating speed (V) of a standard dog at an angle of 30 °C to 45 °C is 0.5 m/s maximum.



HY-M900 / HY-LM900 series

Limit switch

- Solid die casting case and built in the 2 circuits double micro switch
- High mechanical intensity with the heat resistance, oil proof and dust protection structure
- Various actuators (8 types) provide wide application
- IP67 protective structure
(when using the company product HYC-M1 in wire opening)
- Check the operation state on the outside by attaching the operation indicator.



● Suffix code

Model	Code	Description
HY-M90	<input type="checkbox"/> <input checked="" type="checkbox"/>	Limit switch (No operation indicator)
HY-LM90	<input checked="" type="checkbox"/> <input type="checkbox"/>	Limit switch (Operation indicator attachment type)
Actuator (operation part)	2	Roller Plunger Type
	3	Ball Plunger Type
	4	Roller Adjustable Lever Type
	7	Adjustable Rod Wire Type
	8	Roller Lever Type
	8L	Fork Roller Lever
	8R	Ø50 Roller Lever Type
	9	Coil Spring Type
		No operation indicator
Operation indicator classification (HY-LM90□□)	A	a.c indicator attachment type
	D	d.c indicator attachment type

● Operation indicator attachment type classification

- M900 series limit switch is generally composed of the product with operation indicator and without operation indicator. Also divided into the a.c type and d.c type operation indicator.
 - It can be used as an operation indicator just by changing the cover of limit switch.
- It does not need the separate connection and it selects ON/OFF by rotating the holder 180 degree.

Voltage	a.c operation indicator (250 V a.c)	d.c operation indicator (24 V d.c)
Model	HY-LM90□A (a.c)	HY-LM90□D (d.c)
Indicator type	Neon lamp	L.E.D
Leakage current	approx 1.2 mA (250 V a.c)	approx 1.0 mA (24 V d.c)

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

Discontinued
Products

CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG

Limit switch / Micro switch

●● Ratings

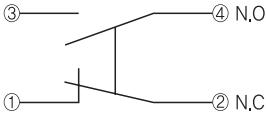
Rated voltage		Rated electro current (A)			
		Resistive load	Inductive load	electric motor load	
a.c	125 V	15	10	N.C	N.O
	250 V	10	6	2	1
	480 V	3	2	1.5	0.75
d.c	8 V	15	10	—	—
	14 V	15	10	—	—
	30 V	6	5	—	—
	125 V	0.4	0.05	—	—
	250 V	0.2	0.03	—	—

* In case of electric magnetic coil and incandescent lamp load then it is same as the electric motor load.

●● Specification

Contact structure	M4 screw tightening terminal, 2 circuits double type (1a1b)
Contact material	AgNi
Protective structure	IP67 (Only when using our company product HYC-M2 in the wire opening)
Operation indicator	a.c : Neon lamp, d.c : LED (only with the HY-LM series)
Rated current(ie)	6 A 250 V a.c (AC-15, DC-13)
Dielectric strength	2,000 V a.c 50/60 Hz for 1 min (between the terminal and non-recharing metal part)
Insulation resistance	Min 100 MΩ (500 V d.c insulated ohmmeter)
Contact resistance	Max 50 MΩ (default value)
Rated voltage(Ue)	250 V a.c, 30 V d.c
Actuator intensity	5 times larger than O.F (force required to operate) 1min to the, operating direction
Vibration	Double amplitude 1.5mm, frequency 10 ~ 55 Hz, continuously 2 hour
Shock	1,000 % (durability), 300 % (malfunction)
Allowable operation speed	0.1 ~ 1 % (without damaging the actuator)
Life expectancy	Mechanical Min 1million times (open/close frequency 120 times/min)
	Electrical Min 300 thousand times (open/close frequency 20 times/min)
Ambient temperature	-10 ~ 70 °C
Ambient humidity	45 ~ 95 % R.H.
Weight	Approx 350 g (included the box with HY-M904)

● Built in type micro switch

Appearance (LS-10)	Connection diagram
	 <pre> graph LR T1[1] --- GND T2[2] --- T3[3] T3 --- T4[N.O] T2 --- T4[N.C] </pre>

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

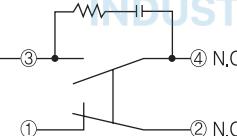
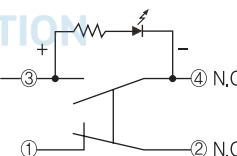
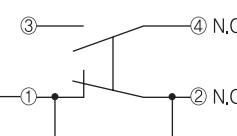
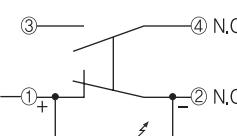
Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

Discontinued
Products

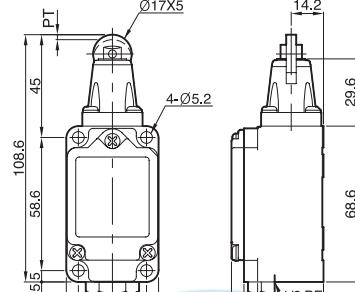
● Cover for operation indicator and internal connection diagram

a.c	d.c
	
L.ON when Normal close (default)	L.ON when Normal close (default)
	
L.ON when Push	L.ON when Push
	

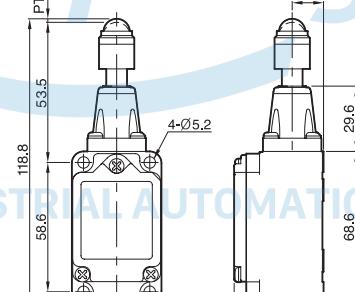
Limit switch / Micro switch

● Dimension (unit : mm)

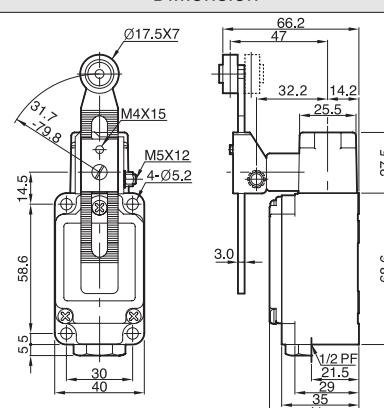
■ Roller Plunger

Appearance	Dimension	Operation characteristic
 HY-M902 HY-LM902		O.F max : 28 N (2857 gf) R.F min : 8 N (816 gf) P.T : 2,0 mm M.D max : 1,0 mm

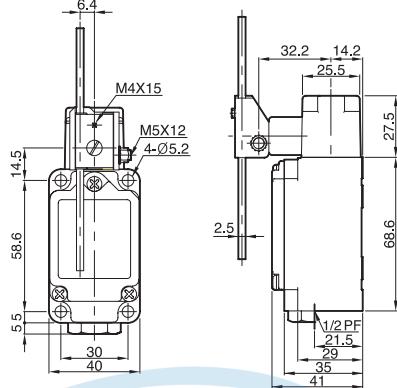
■ Ball Plunger

Appearance	Dimension	Operation characteristic
 HY-M903 HY-LM903		O.F max : 28 N (2857 gf) R.F min: 8 N (816 gf) P.T : 2,0 mm M.D max : 1,0 mm

■ Roller Adjustable Lever

Appearance	Dimension	Operation characteristic
 HY-M904 HY-LM904		O.F max : 14 N (1428 gf) R.F min: 2.1 N (214 gf) P.T : 15° ±5° M.D max : 12° T.T : 40°

■ Rod Lever

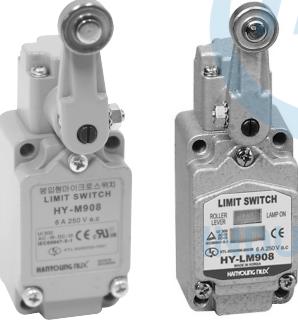
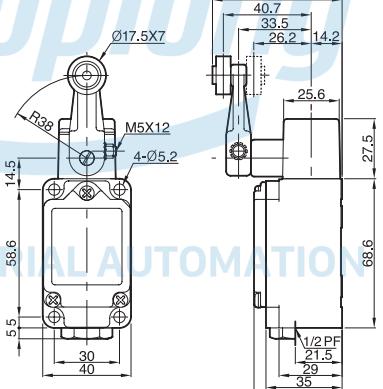
Appearance	Dimension	Operation characteristic
 HY-M907 HY-LM907	 Dimension details: Base height = 58.6mm, Lever height = 14.5mm, Lever width = 30mm, Lever thickness = 40mm, Lever slot width = 35mm, Lever slot thickness = 41mm, Lever slot depth = 2.5mm, Lever slot side wall height = 27.5mm, Lever slot side wall thickness = 14.2mm, Lever slot side wall depth = 25.5mm, Lever slot side wall side height = 32.2mm, Lever slot side wall side thickness = 29mm, Lever slot side wall side depth = 21.5mm.	O.F max : 1.5 N (153 gf) R.F min: 0.25 N (25 gf) P.T : 15° ±5° M.D max : 12° T.T : 40°

Control switch
Combination display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

■ Roller Lever

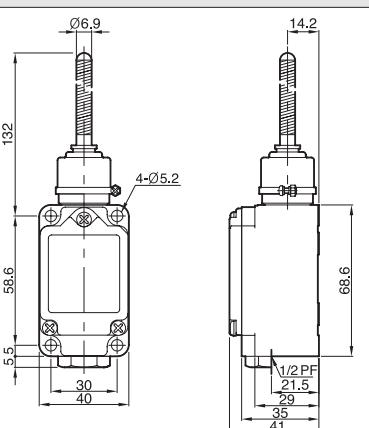
Appearance	Dimension	Operation characteristic
 HY-M908 HY-LM908	 Dimension details: Base height = 58.6mm, Lever height = 14.5mm, Lever width = 30mm, Lever thickness = 40mm, Lever slot width = 35mm, Lever slot thickness = 41mm, Lever slot depth = 2.5mm, Lever slot side wall height = 27.5mm, Lever slot side wall thickness = 14.2mm, Lever slot side wall depth = 25.5mm, Lever slot side wall side height = 33.5mm, Lever slot side wall side thickness = 26.2mm, Lever slot side wall side depth = 20.7mm, Lever slot side wall side side height = 45.8mm, Lever slot side wall side side thickness = 25.6mm, Lever slot side wall side side depth = 17.5mm.	O.F max : 14 N (1428 gf) R.F min: 2.1 N (214 gf) P.T : 15° ±5° M.D max : 12° T.T : 40°

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

■ Coil Spring

Appearance	Dimension	Operation characteristic
 HY-M909 HY-LM909	 Dimension details: Base height = 58.6mm, Lever height = 14.5mm, Lever width = 30mm, Lever thickness = 40mm, Lever slot width = 35mm, Lever slot thickness = 41mm, Lever slot depth = 2.5mm, Lever slot side wall height = 27.5mm, Lever slot side wall thickness = 14.2mm, Lever slot side wall depth = 21.5mm.	O.F max : 1.5 N (153 gf) P.T : 20.0 ±10.0 mm

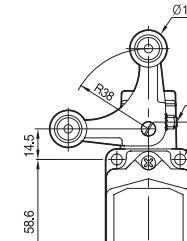
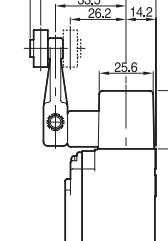
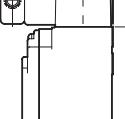
Control box
Cable connector

Discontinued
Products

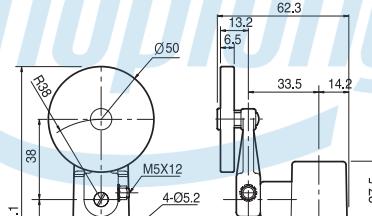
CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG

Limit switch / Micro switch

■ Fork Roller Lever

Appearance	Dimension	Operation characteristic
 HY-M908L	 Front View Dimensions: - Total height: 145 mm - Body height: 58.6 mm - Base height: 5.5 mm - Base width: 40 mm - Base thickness: 30 mm - Lever length: 40 mm - Lever thickness: 33 mm - Lever hole diameter: Ø17.5 x 7 mm - Lever hole distance from base: M5 x 12 mm - Lever hole distance from top: 4-Ø5.2 mm  Side View Dimensions: - Total height: 68.6 mm - Lever thickness: 25.6 mm - Lever thickness: 14.2 mm - Lever thickness: 26.2 mm - Lever thickness: 33.5 mm - Lever thickness: 40.7 mm - Lever thickness: 45.8 mm  Bottom View Dimensions: - Total width: 43 mm - Lever thickness: 29 mm - Lever thickness: 35 mm - Lever thickness: 21.5 mm - Lever thickness: 1/2 PF	O.F max : 11.8N(1200gf) P.T : 50° ±5° O.T max : 12° T.T : 90° ±5°

■ Ø50 Roller Lever

Appearance	Dimension	Operation characteristic
 HY-M908R	 <p>Front View Dimensions:</p> <ul style="list-style-type: none"> Total height: 141.1 Base width: 78.1 Shaft diameter: Ø50 Shaft length: 38 Shaft offset from base: 30 Shaft thickness: 40 Shaft center height: 13.2 Shaft center thickness: 6.5 Shaft center hole: M5X12 Shaft center slot: 4-05.2 Shaft center slot width: 14.2 Shaft center slot depth: 33.5 Shaft center slot side height: 27.5 Shaft center slot side thickness: 68.6 Shaft center slot side hole: Ø12 Shaft center slot side slot: 35 Shaft center slot side slot width: 41 Shaft center slot side slot depth: 29 Shaft center slot side slot side height: 21.5 Shaft center slot side slot side thickness: 2/1PF <p>Side View Dimensions:</p> <ul style="list-style-type: none"> Total height: 62.3 Shaft side thickness: 14.2 Shaft side slot: 27.5 Shaft side slot side height: 68.6 	<p>O.F max : 14 N (1428 gf)</p> <p>R.F min: 2.1 N (214 gf)</p> <p>P.T : $15^\circ \pm 5^\circ$</p> <p>M.D max : 12°</p> <p>T.T : 40°</p>

● Structure

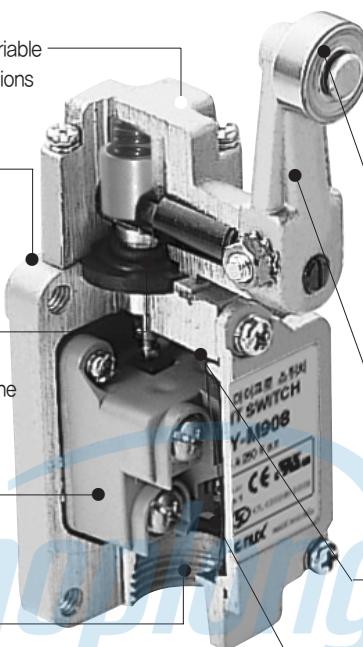
• Head : Al die casting roller lever type, variable roller lever type : Attach in any of 4 directions by unloosening 4 screws.

• Case : Al die casting, high mechanical durability and has a heat resistance, oil-proof and dust protective structure.

• Plunger
Accurate manufacturing which provides excellent reciprocating motion. It makes the operation of built-in switch very smooth.

• MICRO S/W
long mechanical life expectancy

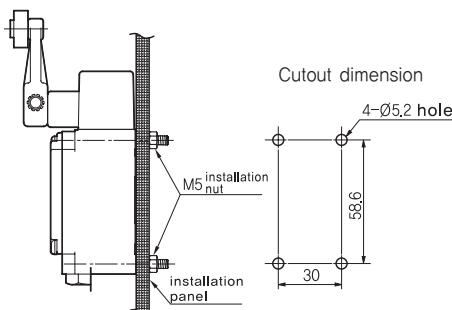
• Wire opening
Connector screw is PF 1/2 common parallel screw. When using it with our company connector (M1 and M2) then it will be sealed more tightly.



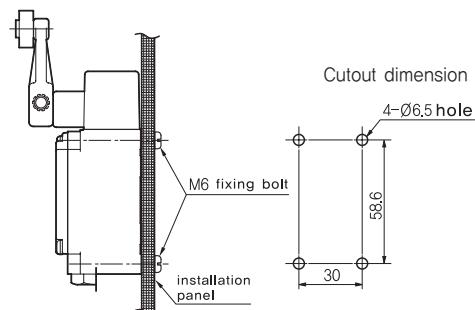
- Roller
Excellent hardness and abrasion resistance
- Lever : Al die-casting (M908) variable roller lever type, variable rod type and roller lever type can set the lever position within any position (360 degree)
- Cover Seal : O ring. It tightens the cover properly which helps it to seal the area
- Insulating paper
Excellent insulation

● Installation method

■ Front installation



■ Back installation



Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

Discontinued
Products

Limit switch / Micro switch

HY-LS800 series

Limit switch

- Compact size and light weight by applying the plastic case
- Plastic case which provides safety regarding the electric leakage
- Various actuators (6 types) provide wide application
- IP54 protective structure
(Applied only when using our company connector model HYC-M1 in the wire opening)
- Connector rating of wire opening : 1/2 PF

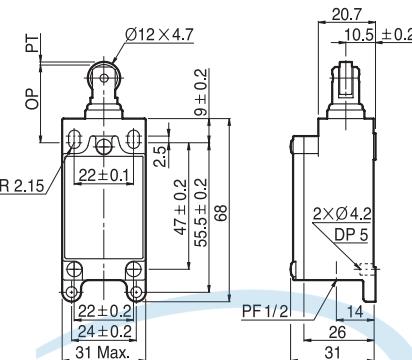


● Specification

Contact structure	M3 screw tightening terminal, 2 circuits double type (1a1b)
Contact material	AgNi
Protective structure	IP54 (Only when using our company product HYC-M1, M2 in the wire opening)
Rated current(ie)	6 A 250 V a.c, 4 A 30 V d.c (AC-12, AC-13, AC-15, DC-13)
Dielectric strength	2,000 V a.c 50/60 Hz for 1 min (between the terminal and non-recharing metal part)
Insulation resistance	Min 100 MΩ (500 V d.c insulated ohmmeter)
Contact resistance	Max 25 MΩ (default value)
Rated voltage(Ue)	250 V a.c, 30 V d.c
Actuator intensity	5 times larger than O.F (required force for the operation), operating direction 1 min
Vibration	Double amplitude 1.5mm, frequency 10 ~ 55 Hz, continuously 2 hour
Shock	100 % (durability), 50 % (malfunction)
Allowable operation speed	0.1 ~ 0.5 % (without damaging the actuator)
Life expectancy	Mechanical Min 1 million times (less than open/close frequency 120 times/min)
	Electrical Min 100 thousand times (less than open/close frequency 30 times/min)
Ambient temperature	-10 ~ 70 °C
Ambient humidity	45 ~ 95 % R.H.
Weight	Approx 60g (HY-LS803N)

● Dimension (unit : mm)

■ Roller Plunger

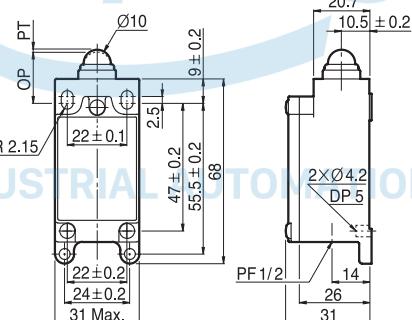
Appearance	Dimension	Operation characteristic
 HY-LS802N	 <p>Technical drawing showing dimensions for HY-LS802N: Overall height (OP) 9.0 ± 0.2, Contact gap (PT) 2.5, Contact thickness (R) 2.15, Pin diameter (Ø) 12 × 4.7, Pin length (L) 47 ± 0.2, Pin width (W) 25 ± 0.2, Pin thickness (T) 2.5, Body height (H) 68, Body width (B) 25 ± 0.2, Body thickness (D) 22 ± 0.1, Body bottom thickness (E) 22 ± 0.2, Body bottom width (F) 24 ± 0.2, Body bottom height (G) 31 Max., Terminal size (PF) 1/2, Pin length (L) 26, Pin width (W) 31.</p>	O.F max : 6.37 N (650 gf) R.F min : 1.47 N (150 gf) P.T max : 2.0 mm O.T min : 4.0 mm M.D max : 0.8 mm O.P : 28.2 ± 0.8

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

■ Push Plunger

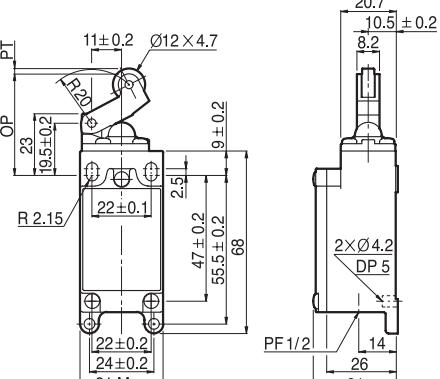
Appearance	Dimension	Operation characteristic
 HY-LS803N	 <p>Technical drawing showing dimensions for HY-LS803N: Overall height (OP) 9.0 ± 0.2, Contact gap (PT) 2.5, Contact thickness (R) 2.15, Pin diameter (Ø) 10, Pin length (L) 47 ± 0.2, Pin width (W) 25 ± 0.2, Pin thickness (T) 2.5, Body height (H) 68, Body width (B) 25 ± 0.2, Body thickness (D) 22 ± 0.1, Body bottom thickness (E) 22 ± 0.2, Body bottom width (F) 24 ± 0.2, Body bottom height (G) 31 Max., Terminal size (PF) 1/2, Pin length (L) 26, Pin width (W) 31.</p>	O.F max : 6.37 N (650 gf) R.F min : 1.47 N (150 gf) P.T max : 2.0 mm O.T min : 4.0 mm M.D max : 0.8 mm O.P : 18.0 ± 0.5

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

■ Roller Arm

Appearance	Dimension	Operation characteristic
 HY-LS803RN	 <p>Technical drawing showing dimensions for HY-LS803RN: Overall height (OP) 9.0 ± 0.2, Contact gap (PT) 2.5, Contact thickness (R) 2.15, Pin diameter (Ø) 12 × 4.7, Pin length (L) 47 ± 0.2, Pin width (W) 25 ± 0.2, Pin thickness (T) 2.5, Body height (H) 68, Body width (B) 25 ± 0.2, Body thickness (D) 22 ± 0.1, Body bottom thickness (E) 22 ± 0.2, Body bottom width (F) 24 ± 0.2, Body bottom height (G) 31 Max., Terminal size (PF) 1/2, Pin length (L) 26, Pin width (W) 31.</p>	O.F max : 3.92 N (400 gf) R.F min : 0.78 N (80 gf) P.T max : 4.0 mm O.T min : 5.0 mm M.D max : 1.5 mm O.P : 37.0 ± 0.8

Control box
Cable connector

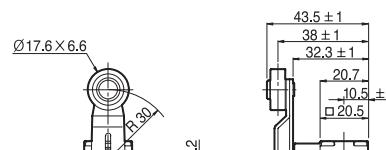
Discontinued
Products

Limit switch / Micro switch

■ Roller Adjustable Lever

■ Adjustable Rod Lever

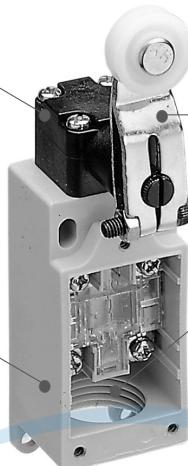
■ Roller Lever

Appearance	Dimension	Operation characteristic
 HY-LS808N		O.F max : 4.9 N (500 gf) R.F min : 0.49 N (50 gf) P.T max : 18° ~ 27° O.T min : 30° M.D max : 14°

Structure

Head

Attached the roller lever by using 4 screws and if it is an order-made product then able to attach in any of 4 directions. (Mounting/Dismounting prohibited)



Lever

Able to change the angle freely

Case

Made of special materials
(heat resistance, environment resistance)

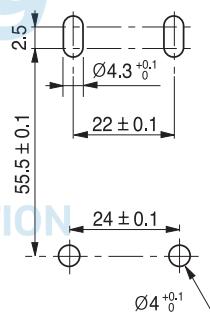
Wire opening

Connector screw - 1/2 PF

Switch connection diagram (external case one body type)

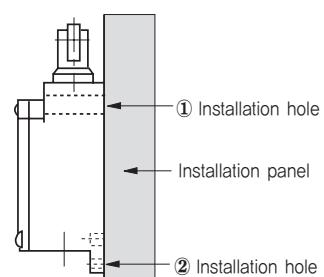


Panel cutout (unit : mm)



Proper using instruction

- In order to prevent the looseness when it is mounted, it is ok to use washer and mount it with 5 ~ 7 N · m torque.
- There are 2 installing holes ($\varnothing 4 \sim 4.8$) in order to mount the switch solidly and when mounting it, please fix it with the installing holes ① and ②.
- Please connect the lead wire to the terminal directly or connect the pressing terminal with the 5~6 N · m torque.
- Avoid the places where temperature is high, various kinds of dust exist and possible leakage of organic gas.
- Please ask us if you are going to use it in the place where it needs the corrosiveness cold/hot cycle and long period hot resistance.
- Please ask us if you are going to change the direction of head (LS803RN, LS804N, LS807N, LS808N)



Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

Discontinued
Products

Limit switch / Micro switch

HY-L800 series

Mini limit switch

- Less installation space due to the compact size
- Zinc die-casting body and plastic cover structure provide electrical safeties
- 4 types of actuators provide wide usages
- Able to install at the front side and back side
- Simple connecting because when open the cover, the terminal part is exposed to the front side.
- Applied to the machine tools, transportation machine, assembling line and various industrial machines



● Suffix code

Model	Code	Description
Actuator (operation part)	□	Compact limit switch (HY-L800 series)
	2	Roller Plunger type
	2C	Cross Roller Plunger type
	3	Top Plunger type
	4	Roller Adjustable Lever type
	7	Adjustable Rod Lever type
	8	Roller Lever type
	9	Coil Spring type

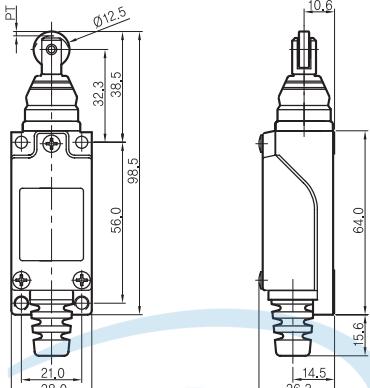
● Specification

INDUSTRIAL AUTOMATION

Contact structure	M3 screw tightening terminal, 2 circuits double type (1a1b)
Contact material	AgNi
Protective structure	IP 54
Rated current(ie)	6 A 250 V a.c (AC-12, AC-13)
Dielectric strength	2,000 V a.c 50/60 Hz for 1 min (between the terminal and non-recharging metal part)
Insulation resistance	Min 100 M Ω (500 V d.c insulated ohmmeter)
Contact resistance	Max 20 M Ω (default value)
Rated voltage(Ue)	250 V a.c
Case material	Zinc die-casting and plastic body and plastic cover
Vibration	Double amplitude 1.5 mm, frequency 10 ~ 55 Hz, continuously 2 hour
Shock	300 % (durability), 100 % (malfunction)
Max opening/closing frequency	Max 120 times / min
Life expectancy	Mechanical Min 1 million times (less than open / close frequency 120 times/min)
	Electrical Min 100 thousand times (less than open / close frequency 30 times/min)
Ambient temperature	-10 ~ 70 °C
Ambient humidity	45 ~ 95 % R.H.
Weight	Approx 157g (HY-LS804 standard)

● Dimension (unit : mm)

■ Roller Plunger type

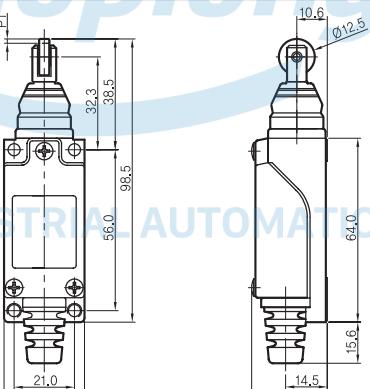
Appearance	Dimension	Operation characteristic
 HY-L802	 <p>Front View Dimensions:</p> <ul style="list-style-type: none"> Total height: 98.5 mm Plunger diameter: Ø12.5 mm Plunger stroke: 38.5 mm Plunger travel distance: 33.3 mm Plunger thickness: 10.6 mm Base width: 21.0 mm Base thickness: 28.0 mm <p>Side View Dimensions:</p> <ul style="list-style-type: none"> Total height: 64.0 mm Plunger thickness: 14.5 mm Plunger travel distance: 15.6 mm Plunger diameter: Ø12.5 mm Plunger stroke: 26.3 mm 	O.F max : 8.83 N (900 gf) R.F min : 1.47 N (150 gf) P.T max : 1.5 mm O.T min : 2.5 mm M.D max : 0.8 mm TTP : 3.5 mm

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

■ Cross Roller Plunger type

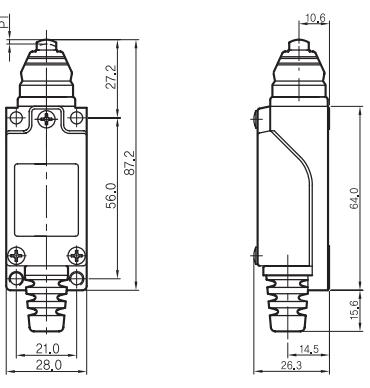
Appearance	Dimension	Operation characteristic
 HY-L802C	 <p>Front View Dimensions:</p> <ul style="list-style-type: none"> Total height: 98.5 mm Plunger diameter: Ø12.5 mm Plunger stroke: 38.5 mm Plunger travel distance: 33.3 mm Plunger thickness: 10.6 mm Base width: 21.0 mm Base thickness: 28.0 mm <p>Side View Dimensions:</p> <ul style="list-style-type: none"> Total height: 64.0 mm Plunger thickness: 14.5 mm Plunger travel distance: 15.6 mm Plunger diameter: Ø12.5 mm Plunger stroke: 26.3 mm 	O.F max : 8.83 N (900 gf) R.F min : 1.47 N (150 gf) P.T max : 1.5 mm O.T min : 2.5 mm M.D max : 0.8 mm TTP : 3.5 mm

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

■ Top Plunger type

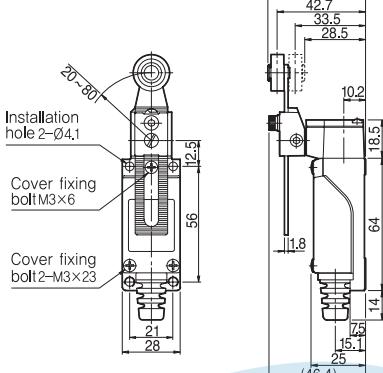
Appearance	Dimension	Operation characteristic
 HY-L803	 <p>Front View Dimensions:</p> <ul style="list-style-type: none"> Total height: 98.5 mm Plunger diameter: Ø12.5 mm Plunger stroke: 38.5 mm Plunger travel distance: 33.3 mm Plunger thickness: 10.6 mm Base width: 21.0 mm Base thickness: 28.0 mm <p>Side View Dimensions:</p> <ul style="list-style-type: none"> Total height: 64.0 mm Plunger thickness: 14.5 mm Plunger travel distance: 15.6 mm Plunger diameter: Ø12.5 mm Plunger stroke: 26.3 mm 	O.F max : 8.83 N (900 gf) R.F min : 1.47 N (150 gf) P.T max : 1.5 mm O.T min : 2.1 mm M.D max : 0.8 mm TTP : 3.0 mm

Control box
Cable connector

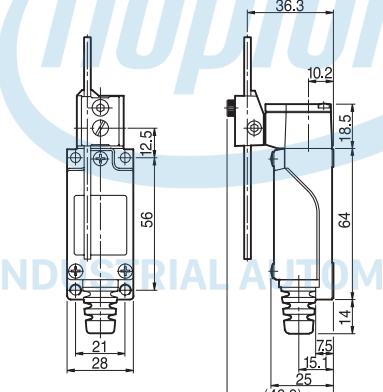
Discontinued
Products

Limit switch / Micro switch

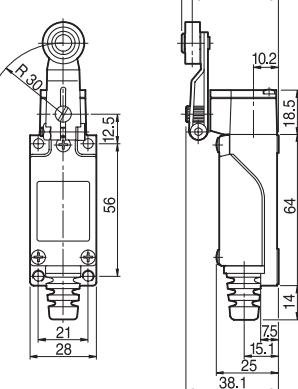
■ Roller Adjustable Lever

Appearance	Dimension	Operation characteristic
 HY-L804	 Installation hole 2-Ø4.1 Cover fixing bolt M3×6 Cover fixing bolt 2-M3×23	O.F max : 7.84 N (800 gf) R.F min : 0.2 N (21 gf) P.T max : 20 mm O.T min : 70° M.D max : 10 mm

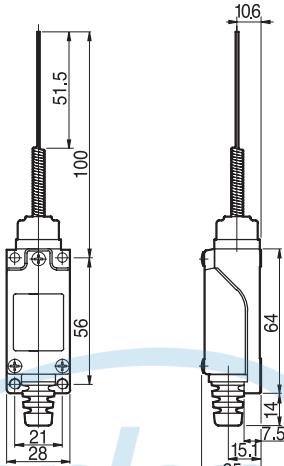
■ Adjustable Rod Lever

Appearance	Dimension	Operation characteristic
 HY-L807	 36.3 10.2 18.5 64 14 75 25 (46.9)	O.F max : 7.84 N (800 gf) R.F min : 0.1 N (21 gf) P.T max : 20 mm O.T min : 70° M.D max : 10 mm

■ Roller Lever

Appearance	Dimension	Operation characteristic
 HY-L808	 41.2 36.2 10.2 18.5 64 14 75 25 38.1	O.F max : 5.88 N (400 gf) R.F min : 0.5 N (50 gf) P.T max : 20° O.T min : 70° M.D max : 10° T.T min : 90°

■ Coil spring type

Appearance	Dimension	Operation characteristic
 HY-L809	 Dimension values: Total height = 106 mm, Body height = 64 mm, Base height = 25 mm, Base width = 15.1 mm, Base thickness = 2.4 mm, Contact gap = 28 mm, Contact thickness = 21 mm, Contact width = 5.6 mm, Contact center distance = 100 mm, Contact center height = 51.5 mm.	O.F max : 0.88 N (90 gf) R.F min : - P.T max : 30 mm O.T min : 20 ° M.D max : - T.T min : 30 mm

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

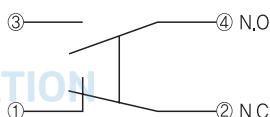
Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

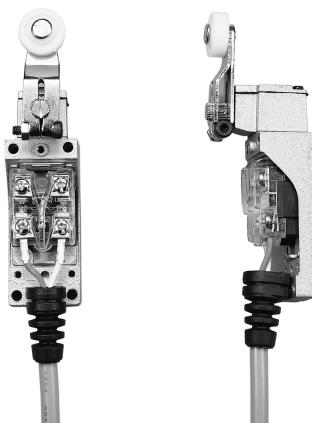
Discontinued
Products

● Built in switch and connection diagram

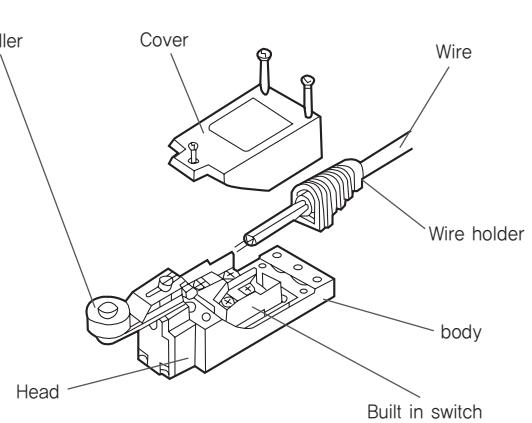
Appearance (HY-800)	Connection diagram
	 Connection diagram: Pin ① is connected to Pin ② (N.C), Pin ③ is connected to Pin ④ (N.O).

● Structure and name of each part

■ Image (After completed the connection)



■ Name of each part (structure)

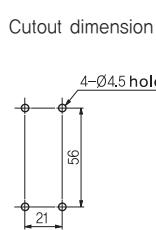
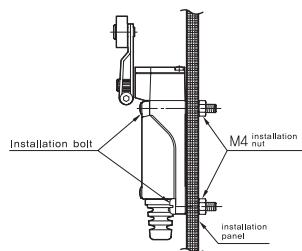


Limit switch / Micro switch

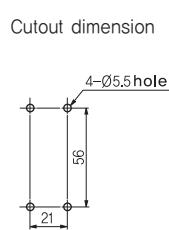
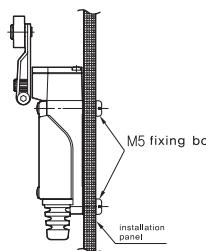
● Installation method

※Front installation : Use M4 bolt, Back installation : Use M5 bolt.

■ Front installation

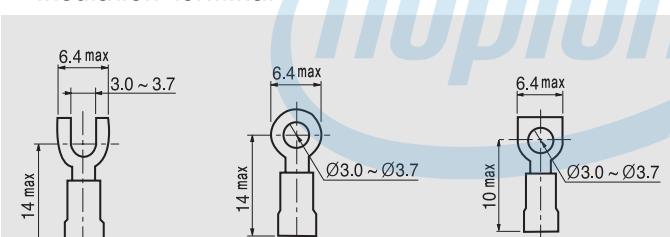


■ Back installation

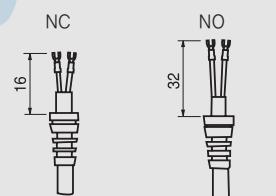


● Applying pressure terminal

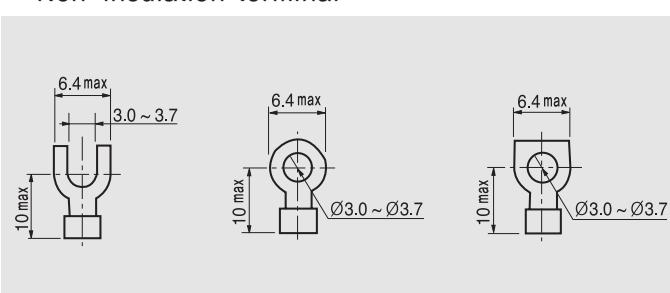
■ Insulation terminal



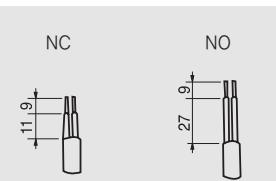
■ Wire handling when using the pressure terminal



■ Non-insulation terminal



■ Wire handling when not using the pressure terminal



ZCN-500 series

Limit switch

- Gap of installation cutout dimension is same as micro switch (HY-P700)
- Certain operation and long life expectancy by applying Beryllium copper and running spring to the strong chemical resistance case.
- Compact size and light weight. (Strong mechanical durability)
- 9 types of actuators which provide wide usages
- Less force required to run the operation comparing to the normal limit switch.
- Excellent sealing



Specification

Contact structure	M4 screw tightening, 1c contact
Contact material	AgCdO
Protective structure	IP 54
Rated current(<i>Ie</i>)	10 A 250 V a.c
Dielectric strength	2,000 V a.c 50/60 Hz for 1 min (between the terminal and non-recharging metal part)
Insulation resistance	Min 100 MΩ (500 V d.c insulated ohmmeter)
Contact resistance	Max 50 MΩ (default value)
Rated voltage(<i>Ue</i>)	250 V a.c
Actuator intensity	5 times larger than O.F (force required to operate), operating direction 1 min
Vibration	Double amplitude 1.5 mm, frequency 10 ~ 55 Hz, continuously 2 hour
Shock	1,000 % (durability), 300 % (malfunction)
Allowable operation speed	0.1 ~ 1 % (without damaging the actuator)
Life expectancy	Mechanical Min 1 million times (less than open/close frequency 120 times/min)
	Electrical Min 300 thousand times (less than open/close frequency 20 times/min)
Ambient temperature	-10 ~ 80 °C
Ambient humidity	25 ~ 95 % R.H.
Weight	Approx 1010 g (10 ZCN-PR508H 1 box)

Terminal arrangement

Appearance	Connection diagram

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

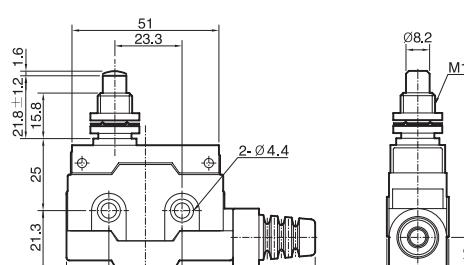
Control box
Cable connector

Discontinued
Products

Limit switch / Micro switch

Dimension (unit : mm)

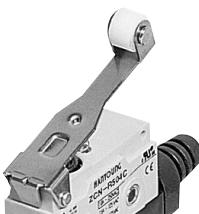
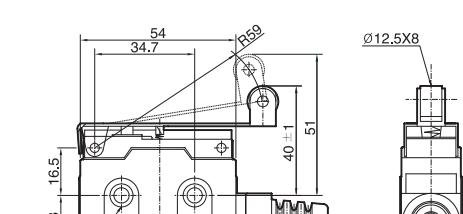
■ Plunger type

Appearance	Dimension	Operation characteristic
 ZCN-P5010		O.F max : 5.88 N (600 gf) R.F min : 0.98 N (100 gf) P.T max : 1.6 mm O.T min : 5 mm M.D max : 0.2 mm O.P : 21.8 mm

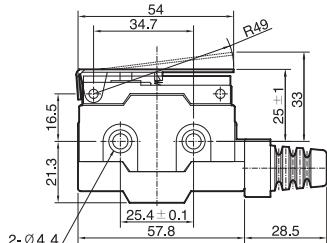
■ Hinge roller short lever type

Appearance	Dimension	Operation characteristic
 ZCN-R504A	 <p>Front View Dimensions:</p> <ul style="list-style-type: none"> Width: 54 mm Height: 34.7 mm Depth: 21.3 mm Base hole diameter: 2- Ø 4.4 mm Base hole distance: 25.4 ± 0.1 mm Base hole center distance: 57.8 mm Shaft height: 40 ± 1 mm Shaft diameter: Ø 12.5 × 8 mm Shaft length: 47 mm <p>Side View Dimensions:</p> <ul style="list-style-type: none"> Shaft diameter: Ø 12.5 mm Shaft length: 20 mm Shaft base height: 21.5 mm 	O.F max : 5.88 N (600 gf) R.F min : 0.78 N (80 gf) O.T min : 2 mm M.D max : 1.5 mm F.P max : 47 mm O.P : 40 mm

■ Hinge roller long lever type

Appearance	Dimension	Operation characteristic
 ZCN-R504C		O.F max : 2.74 N (280 gf) R.F min : 0.95 N (60 gf) O.T min: 5 mm M.D max : 3 mm F.P max : 51 mm O.P : 40 mm

■ Hinge short lever type

Appearance	Dimension	Operation characteristic
 ZCN-L507A	 Dimension details: Total width 54mm, lever length 34.7mm, lever radius R49, base height 33mm, base thickness 25.1mm, base width 25.4±0.1mm, base depth 57.8mm, base side height 21.3mm, base side thickness 16.5mm, base side width 28.5mm, base side depth 2-Ø 4.4mm.	O.F max : 3,92 N (400 gf) R.F min : 0,78 N (80 gf) O.T min : 2,5 mm M.D max : 1 mm F.P max : 33 mm O.P : 25 mm

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

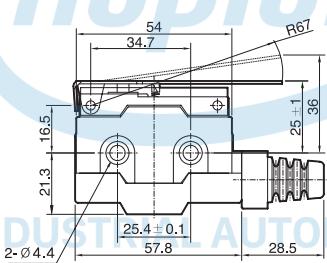
Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

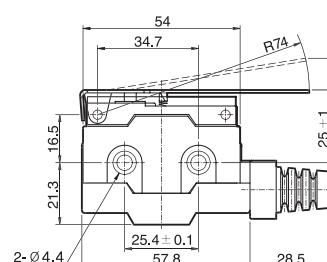
Control box
Cable connector

Discontinued
Products

■ Hinge long lever type

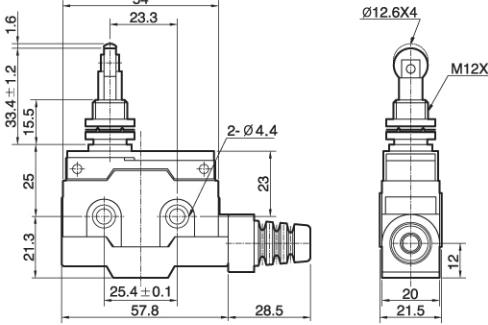
Appearance	Dimension	Operation characteristic
 ZCN-L507C	 Dimension details: Total width 54mm, lever length 34.7mm, lever radius R67, base height 36mm, base thickness 25.1mm, base width 25.4±0.1mm, base depth 57.8mm, base side height 21.3mm, base side thickness 16.5mm, base side width 28.5mm, base side depth 2-Ø 4.4mm.	O.F max : 2,74 N (280 gf) R.F min : 0,59 N (60 gf) O.T min : 4 mm M.D max : 1.4 mm F.P max : 36 mm O.P : 25 mm

■ Hinge long lever type

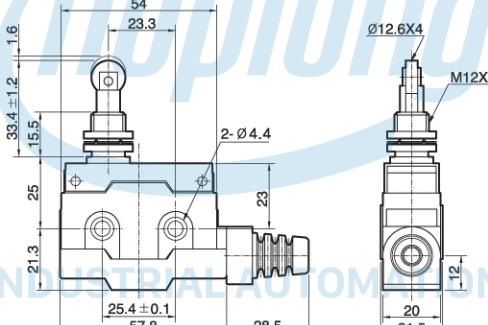
Appearance	Dimension	Operation characteristic
 ZCN-L507D	 Dimension details: Total width 54mm, lever length 34.7mm, lever radius R74, base height 35.9mm, base thickness 25.1mm, base width 25.4±0.1mm, base depth 57.8mm, base side height 21.3mm, base side thickness 16.5mm, base side width 28.5mm, base side depth 2-Ø 4.4mm.	O.F max : 2,74 N (280 gf) R.F min : 0,59 N (60 gf) O.T min : 4 mm M.D max : 1.4 mm F.P max : 36 mm O.P : 25 mm

Limit switch / Micro switch

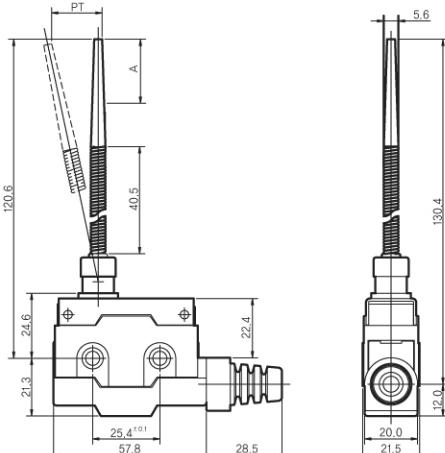
■ (Vertical) roller plunger type

Appearance	Dimension	Operation characteristic
 ZCN-PR508V	 <p>Technical drawing showing dimensions for ZCN-PR508V. Overall height is 33.4 ± 1.2 mm, base width is 25 mm, and base thickness is 21.3 mm. The roller plunger has a diameter of Ø12.6X4 and a shaft diameter of M12X1. The base has two mounting holes Ø4.4 mm.</p>	O.F max : 5.88 N (600 gf) R.F min : 0.98 N (100 gf) P.T max : 1.6 mm O.T min : 5 mm M.D max : 0.2 mm O.P : 33.4 mm

■ (Horizontal) roller plunger type

Appearance	Dimension	Operation characteristic
 ZCN-PR508H	 <p>Technical drawing showing dimensions for ZCN-PR508H. Overall height is 33.4 ± 1.2 mm, base width is 25 mm, and base thickness is 21.3 mm. The roller plunger has a diameter of Ø12.6X4 and a shaft diameter of M12X1. The base has two mounting holes Ø4.4 mm.</p>	O.F max : 5.88 N (600 gf) R.F min : 0.98 N (100 gf) P.T max : 1.6 mm O.T min : 5 mm M.D max : 0.2 mm O.P : 33.4 mm

■ Resin road coil spring type

Appearance	Dimension	Operation characteristic
 ZCN-L509	 <p>Technical drawing showing dimensions for ZCN-L509. Overall height is 120.6 mm, base width is 25 mm, and base thickness is 21.3 mm. The resin rod has a diameter of Ø12.6X4 and a shaft diameter of M12X1. The base has two mounting holes Ø4.4 mm. The operating range A is indicated as 40.5 mm from the top end.</p>	O.F max : 5.88 N (600gf) P.T max : 19 mm T.T max : 40 mm

A : Optimum operating range of the resin rod is within 1/3 of the entire length from the top end

HY-700 series

Micro switch

- Certain operation and long life expectancy due to the snap action tool and strong chemical resistance case (phenolic resin)
- Excellent repetitive accuracy and 10A opening / closing capacity
- Standard type, hole gap of installation cutout dimension : 25.4mm, fix with M4 bolt
- 9 types of actuators provide wide usages
- Terminal protective cover (optional)



Specification

Contact structure	M4-5.5 screw tightening, 1c contact
Contact material	AgCdO
Protective structure	Standard type
Rated current(le)	10 A 250 V a.c
Dielectric strength	2,000 V a.c 50/60 Hz for 1min (between the terminal and non-recharging metal part)
Insulation resistance	Min 100 MΩ (500 V d.c insulated ohmmeter)
Contact resistance	Max 50 MΩ (default value)
Rated voltage(Ue)	250 V a.c
Vibration	Double amplitude 1.5mm, frequency 10 ~ 55 Hz, continuously 2 hour
Shock	100 % (durability), 50 % (malfunction)
Allowable operation speed	0.1 % ~ 1 %
Life expectancy	Min 1 million times (less than open/close frequency 120 times/min)
(expectancy)	Electrical Min 300 thousand times (less than open/close frequency 20 times/min)
Ambient temperature	-10 ~ 80 °C
Ambient humidity	25 ~ 95 % R.H.
Weight	Approx 800g (10 HY-R704B 1 box)

Terminal arrangement

Appearance	Connection diagram

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

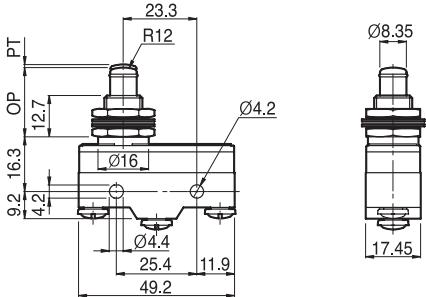
Control box
Cable connector

Discontinued
Products

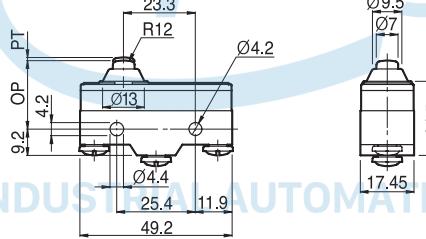
Limit switch / Micro switch

● Dimension (unit : mm)

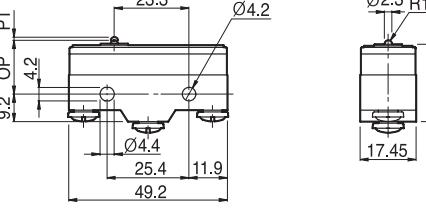
■ Panel mounting type

Appearance	Dimension	Operation characteristic
 HY-P701A (Z4G1P05B)		O.F max : 3.73 N (380 gf) R.F min : 1.12 N (114 gf) P.T max : 1.0 mm O.T min : 5.2 mm M.D max : 0.13 mm O.P : 21.8 ±0.8 mm

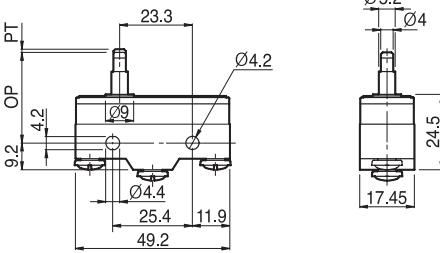
■ Spring single push button type

Appearance	Dimension	Operation characteristic
 HY-P701B (Z4G1P09B)		O.F max : 3.73 N (380 gf) R.F min : 1.12 N (114 gf) P.T max : 1.0 mm O.T min : 1.3 mm M.D max : 0.13 mm O.P : 21.8 ±0.8 mm

■ Pin push button type

Appearance	Dimension	Operation characteristic
 HY-P701C (Z4G1P01B)		O.F max : 3.73 N (380 gf) R.F min : 1.12 N (114 gf) P.T max : 1.0 mm O.T min : 0.13 mm M.D max : 0.13 mm O.P : 16.0 ±0.5 mm

■ Spring stander push button type

Appearance	Dimension	Operation characteristic
 HY-P701D (Z4G1P03B)		O.F max : 3.73 N (380 gf) R.F min : 1.12 N (114 gf) P.T max : 1.0 mm O.T min : 1.3 mm M.D max : 0.13 mm O.P : 28.2 ±0.6 mm

Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

Hoist switch
Foot switch
Mono lever switch

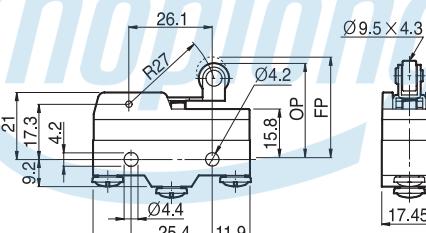
Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

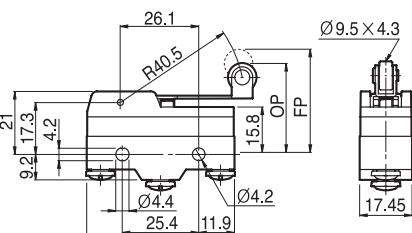
Control box
Cable connector

Discontinued
Products

■ Hinge roller single lever type

Appearance	Dimension	Operation characteristic
 HY-R704A (Z4G1L07B)		O.F max : 1.57 N (160 gf) R.F min : 0.27 N (28 gf) P.T max : 5.0 mm O.T min : 2.0 mm M.D max : 1.2 mm O.P : 30.2 ±1.0 mm

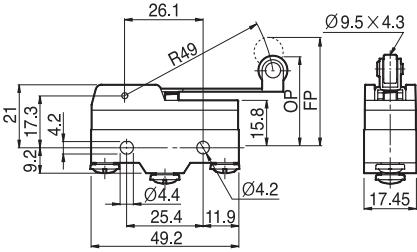
■ Hinge roller middle lever type

Appearance	Dimension	Operation characteristic
 HY-R704B		O.F max : 1.18 N (120 gf) R.F min : 0.2 N (28 gf) P.T max : 5.0 mm O.T min : 2.0 mm M.D max : 1.2 mm O.P : 30.2 ±1.0 mm

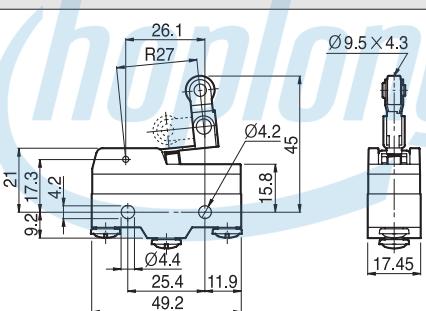
INDUSTRIAL AUTOMATION

Limit switch / Micro switch

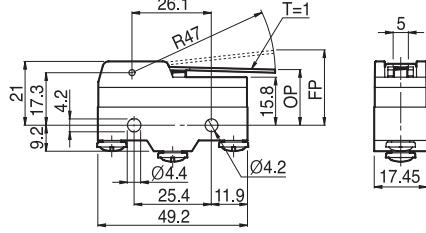
■ Hinge roller lever type

Appearance	Dimension	Operation characteristic
 HY-R704C (Z4G1L03B)	 <p>Dimensions (mm): Overall width: 26.1 Top thickness: 21 Side height: 9.2 Side height (total): 17.3 Lever height: 4.2 Lever thickness: 0.4 mm Lever gap: 25.4 Lever gap: 11.9 Lever gap: 49.2 Lever gap: 0.4 mm Lever gap: 0.4 mm Lever gap: 15.8 Lever gap: 45 Lever gap: 17.45 Lever gap: 0.95 x 4.3 Lever gap: R49 Lever gap: OP Lever gap: FP </p>	O.F max : 0.98 N (100 gf) RF min : 0.14 N (14 gf) P.T max : 8.0 mm O.T min : 3.6 mm M.D max : 2.4 mm O.P : 30.2 ±1.0 mm

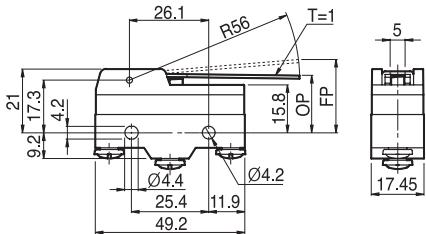
■ 2 positions roller lever type

Appearance	Dimension	Operation characteristic
 HY-R704-2W	 <p>Dimensions (mm): Overall width: 26.1 Top thickness: 21 Side height: 9.2 Side height (total): 17.3 Lever height: 4.2 Lever thickness: 0.4 mm Lever gap: 25.4 Lever gap: 11.9 Lever gap: 49.2 Lever gap: 0.4 mm Lever gap: 0.4 mm Lever gap: 15.8 Lever gap: 45 Lever gap: 17.45 Lever gap: 0.95 x 4.3 Lever gap: R27 </p>	O.F max : 0.98 N (100 gf) RF min : 0.14 N (14 gf) P.T max : 8.0 mm O.T min : 3.6 mm M.D max : 0.5 mm O.P : 43.2 ±1.4 mm

■ Single position lever type

Appearance	Dimension	Operation characteristic
 HY-L707A	 <p>Dimensions (mm): Overall width: 26.1 Top thickness: 21 Side height: 9.2 Side height (total): 17.3 Lever height: 4.2 Lever thickness: 0.4 mm Lever gap: 25.4 Lever gap: 11.9 Lever gap: 49.2 Lever gap: 0.4 mm Lever gap: 0.4 mm Lever gap: 15.8 Lever gap: 45 Lever gap: 17.45 Lever gap: 0.95 x 4.3 Lever gap: R47 Lever gap: T=1 Lever gap: OP Lever gap: FP </p>	O.F max : 1.57 N (160 gf) RF min : 0.27 N (28 gf) P.T max : 5.0 mm O.T min : 2.0 mm M.D max : 1.2 mm O.P : 19.1 ±1.0 mm

■ Middle lever type

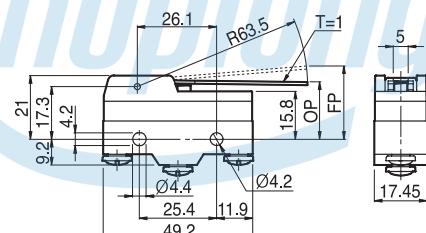
Appearance	Dimension	Operation characteristic
 HY-L707B	 Dimension details: Total width 49.2mm, total height 92.173mm, lever length 26.1mm, lever radius R56, lever thickness T=1, contact gap OP 15.8mm, base height 4.2mm, base width 21mm, base thickness 17.45mm, base hole diameter Ø4.4mm, base side hole diameter Ø4.2mm, base side height 25.4mm, base side thickness 11.9mm.	O.F max : 1.18 N (120 gf) R.F min : 0.20 N (20 gf) P.T max : 6.5 mm O.T min : 2.8 mm M.D max : 1.8 mm O.P : 19.1 ±1.0 mm

Control switch
Combination display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

■ Hinge lever type

Appearance	Dimension	Operation characteristic
 HY-L707C (Z4G1L01B)	 Dimension details: Total width 49.2mm, total height 92.173mm, lever length 26.1mm, lever radius R63.5, lever thickness T=1, contact gap OP 15.8mm, base height 4.2mm, base width 21mm, base thickness 17.45mm, base hole diameter Ø4.4mm, base side hole diameter Ø4.2mm, base side height 25.4mm, base side thickness 11.9mm.	O.F max : 0.98 N (100 gf) R.F min : 0.14 N (14 gf) P.T max : 1.0 mm O.T min : 4.0 mm M.D max : 2.4 mm O.P : 19.1 ±1.0 mm

Hoist switch
Foot switch
Mono lever switch

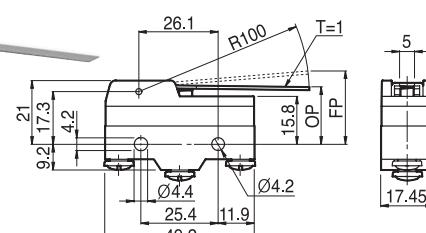
Sign tower
Signal light

Buzzer
Terminal block
Fuse holder

Control box
Cable connector

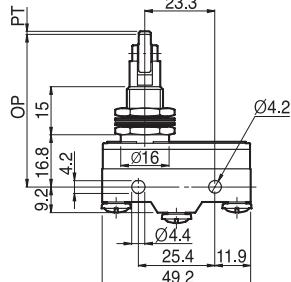
Discontinued
Products

■ Special lever type

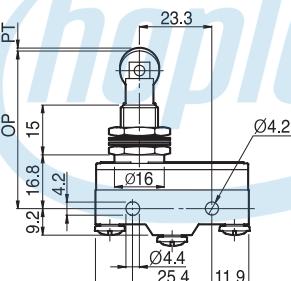
Appearance	Dimension	Operation characteristic
 HY-L707D	 Dimension details: Total width 49.2mm, total height 92.173mm, lever length 26.1mm, lever radius R100, lever thickness T=1, contact gap OP 15.8mm, base height 4.2mm, base width 21mm, base thickness 17.45mm, base hole diameter Ø4.4mm, base side hole diameter Ø4.2mm, base side height 25.4mm, base side thickness 11.9mm.	O.F max : 0.78 N (80 gf) R.F min : 0.1 N (10 gf) P.T max : 1.4 mm O.T min : 5.6 mm M.D max : 3.5 mm O.P : 19.1 ±1.0 mm

Limit switch / Micro switch

■ Roller panel mounting type (Vertical)

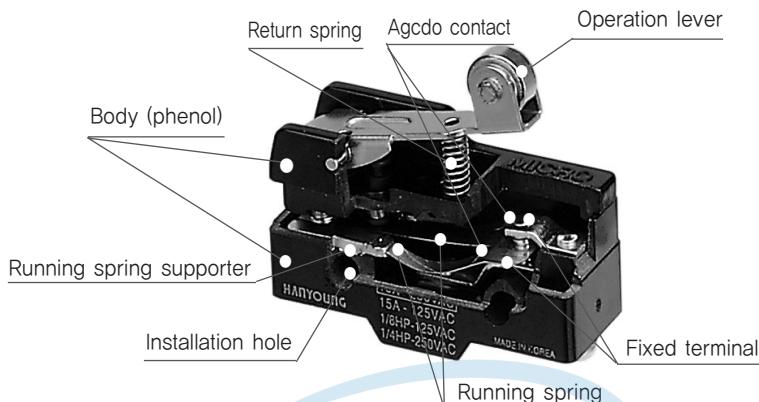
Appearance	Dimension	Operation characteristic
 HY-PR708A		O.F max : 3.73 N (380 gf) RF min : 1.12 N (114 gf) P.T max : 1.0 mm O.T min : 3.2 mm M.D max : 0.13 mm O.P : 33.3 ±1.4 mm

■ Roller panel mounting type

Appearance	Dimension	Operation characteristic
 HY-PR708B (Z4G1P07B)		O.F max : 3.73 N (380 gf) RF min : 1.12 N (114 gf) P.T max : 1.0 mm O.T min : 3.2 mm M.D max : 0.13 mm O.P : 33.3 ±1.4 mm

Structure

Internal structure



Control
switch
Combination
display light

Power switch
Main switch
Cam switch

Limit switch
Micro switch

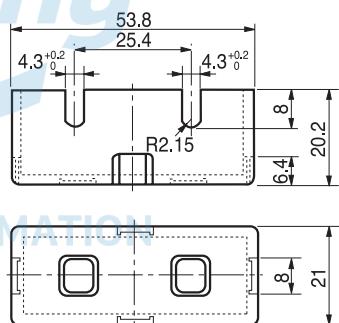
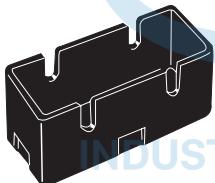
Hoist switch
Foot switch
Mono lever switch

Sign tower
Signal light

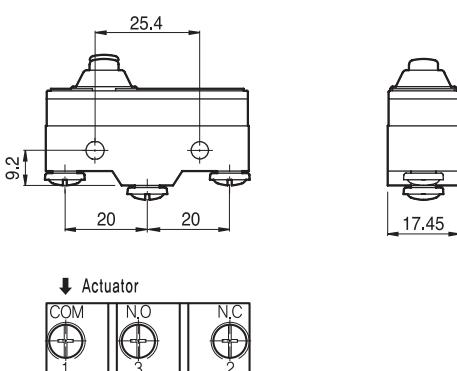
Buzzer
Terminal block
Fuse holder

Terminal protective cover

MS-10



Dimension and terminal arrangement



Control box
Cable connector

Discontinued
Products

CÔNG TY CỔ PHẦN CÔNG NGHỆ HỢP LONG



INDUSTRIAL AUTOMATION

Hotline: 1900.6536 - Website: HOPLONGTECH.COM