



Mini limit switches

HY-L800**Electrical safety ensured with zinc die casting body and plastic cover structure**

- Convenient selection with 4 actuator types
- Installation possible at front and back side
- When the cover is opened, terminals are exposed to the side, providing wiring convenience
- Used in several types of industrial machines and automatic control devices



● Model configuration

Model	Code	Description
HY-L80	□	Mini limit switch (HY-L800 series)
Actuators (operating part)	2	Roller Plunger type (horizontal) 
	2C	Cross Roller Plunger type (vertical) 
	3	Top Plunger type 
	4	Roller Adjustable Lever type 
	4RE	Rubber Roller Adjustable Lever type 
	7	Adjustable Rod Lever type 
	8	Roller Lever type 
	9	Coil Spring type 

● Specifications

Model	HY-L802	HY-L802C	HY-L803	HY-L804	HY-L804RE	HY-L807	HY-L808	HY-L809
Shape								
Type	Roller Plunger type	Cross Roller Plunger type	Top Plunger type	Roller Adjustable Lever type	Rubber Roller Adjustable Lever type	Adjustable Rod Lever type	Roller Lever type	Coil Spring type
Frequency	Mechanical	120 times/min						
	Electrical	30 times/min						
Insulation resistance		100 MΩ min (500 V d.c.)						
Dielectric strength		Among terminals:1500 V a.c. 50/60 Hz for 1 min Among unfilled metal parts:2,000 V a.c. 50/60 Hz for 1 min						
Contact resistance		25 MΩ min (initial value), 100 MΩ min (after test)						
Vibration resistance	Malfunction	10 - 55 Hz min double amplitude 1.5 mm						
Shock resistance	Mechanical	300 m/s ² min (30G min)						
	Malfunction	100 m/s ² min (10G min)						
Life	Mechanical	1,000,000 times min (open/close frequency:120times/min)						
	Electrical	100,000 times min (Open/close frequency in rated load:20 times/min)						
Ambient temperature and humidity		-10 ~ 70 °C 45 ~ 95 % RH max (20 °C)						
Weight		Approx. 157 g (HY-L804)						

● Rating

Rated voltage	LOAD	Resistive load (cosφ≈1)	Inductive load (cosφ≈0.4)
125 V a.c.		5 A	3 A
250 V a.c.		5 A	2 A
125 V d.c.		0.4 A	0.1 A

Limit Switches

● HY-L802

Dimensions	Operating characteristics
	OF max: 8.83 N (900 gf) RF min: 1.47 N (150 gf) PT max: 1.5 mm OT min: 2.5 mm MD max: 0.8 mm TTP: 3.5 mm

● HY-L802C

Dimensions	Operating characteristics
	OF max: 8.83 N (900 gf) RF min: 1.47 N (150 gf) PT max: 1.5 mm OT min: 2.5 mm MD max: 0.8 mm TTP: 3.5 mm

● HY-L803

Dimensions	Operating characteristics
	OF max: 8.83 N (900 gf) RF min: 1.47 N (150 gf) PT max: 1.5 mm OT min: 2.1 mm MD max: 0.8 mm TTP: 3.0 mm

● HY-L804

Dimensions	Operating characteristics
	OF max: 7.84 N (800 gf) RF min: 0.2 N (21 gf) PT max: 20 mm OT min: 70° MD max: 10°

● HY-L804RE

Dimensions	Operating characteristics
	OF max: 7.84 N (800 gf) RF min: 0.42 N (43 gf) PT max: 20 mm OT min: 70° MD max: 10°

● HY-L807

Dimensions	Operating characteristics
	OF max: 7.84 N (800 gf) RF min: 0.2 N (21 gf) PT max: 20 mm OT min: 70° MD max: 10°

● HY-L808

Dimensions	Operating characteristics
	OF max: 7.84 N (800gf) RF min: 0.2 N (21gf) PT max: 20 mm OT min: 70° MD min: 10° TT min: 90°

● HY-L809

Dimensions	Operating characteristics
	OF max: 0.88 N (90 gf) RF min: - PT max: 30 mm OT min: 20° MD max: - TT min: 30 mm

HY-L800 series

Zinc die casting case

- 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 opening the cover, the terminal part is exposed to the front side.
- Applied to the machine tools, transportation machine, assembling line and various industrial machines



Specification

Model	HY-L802	HY-L802C	HY-L803	HY-L804
Shape				
Type	Roller Plunger type	Cross Roller Plunger type	Top Plunger type	Roller Adjustable Lever type

Model	HY-L804RE	HY-L807	HY-L808	HY-L809
Shape				
Type	Rubber Roller Adjustable Lever type	Adjustable Rod Lever type	Roller Lever type	Coil Spring type

Common specification

Frequency	Mechanical	120 times / min
	Electrical	30 times / min
Insulation resistance		100 MΩ min (500 V d.c.)
Dielectric strength		Among terminals : 1500 V a.c. 50/60 Hz for 1 min Among unfilled metal parts : 2,000 V a.c. 50 / 60 Hz for 1 min
Contact resistance		25 MΩ min (initial value), 100 MΩ min (after test)
Vibration resistance	Malfunction	10 - 55 Hz min double amplitude 1.5 mm
Shock resistance	Mechanical	300 m/s ² min (30G min)
	Malfunction	100 m/s ² min (10G min)
Life	Mechanical	1,000,000 times min (open / close frequency : 120times / min)
	Electrical	100,000 times min (Open / close frequency in rated load : 20 times / min)
Ambient temperature and humidity		-10 ~ 70 °C 45 ~ 95 % RH max (20 °C)
Certification		
Weight		Approx. 157 g (HY-L804)

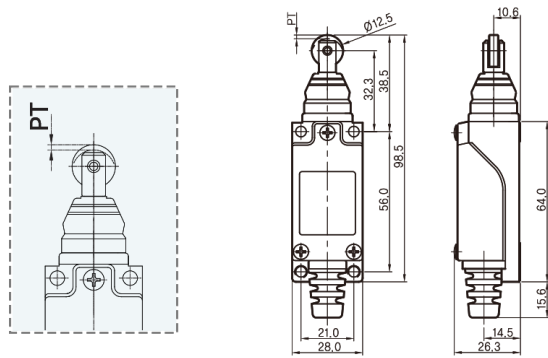
Suffix code

Model	Code	Content
HY-L80	☐	Compact limit switch (HY-L800 series)
Actuator (operation part)	2	Roller Plunger type
	2C	Cross Roller Plunger type
	3	Top Plunger type
	4	Roller Adjustable Lever type
	4RE	Rubber Roller Adjustable Lever
	7	Adjustable Rod Lever type
	8	Roller Lever type
	9	Coil Spring type

Dimension

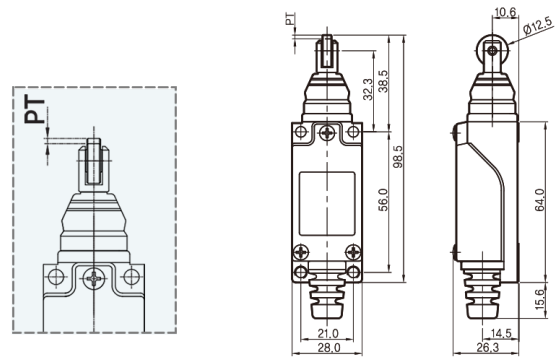
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■ HY-L802



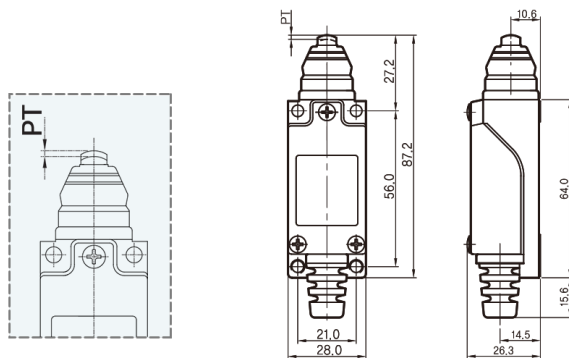
Operating characteristics	OF	max : 8.83 N (900 gf)	RF	min : 1.47 N (150 gf)
	PT	max : 1.5 mm	OT	min : 2.5 mm
	MD	max : 0.8 mm	TTP	3.5 mm

■ HY-L802C



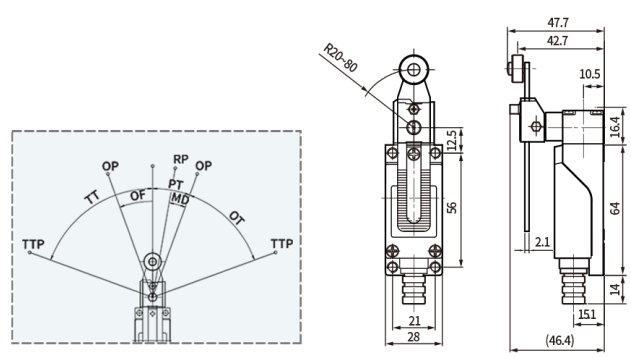
Operating characteristics	OF	max : 8.83 N (900 gf)	RF	min : 1.47 N (150 gf)
	PT	max : 1.5 mm	OT	min : 2.5 mm
	MD	max : 0.8 mm	TTP	3.5 mm

■ HY-L803



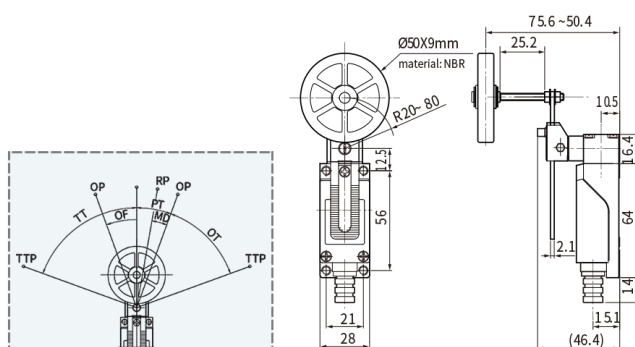
Operating characteristics	OF	max : 8.83 N (900 gf)	RF	min : 1.47 N (150 gf)
	PT	max : 1.5 mm	OT	min : 2.1 mm
	MD	max : 0.8 mm	TTP	3.0 mm

■ HY-L804



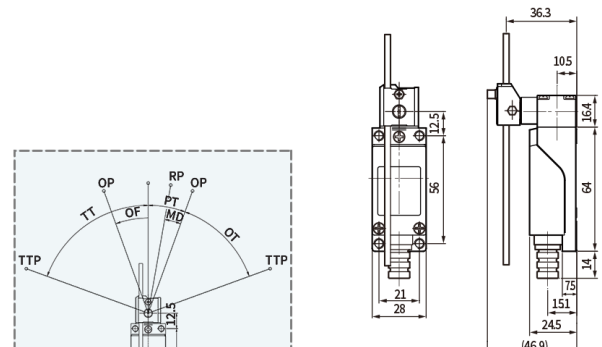
Operating characteristics	OF	max : 7.84 N (800 gf)	RF	min : 0.2 N (21 gf)
	PT	max : 20 mm	OT	min : 70°
	MD	max : 10°		

■ HY-L804RE



Operating characteristics	OF	max : 7.84 N (800 gf)	RF	min : 0.42 N (43 gf)
	PT	max : 20 mm	OT	min : 70°
	MD	max : 10°		

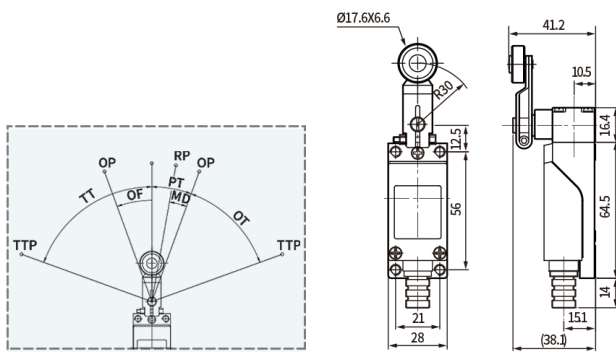
■ HY-L807



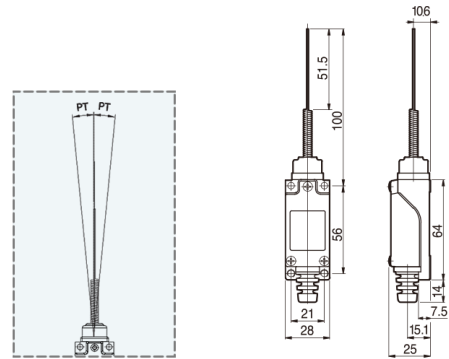
Operating characteristics	OF	max : 7.84 N (800 gf)	RF	min : 0.2 N (21 gf)
	PT	max : 20 mm	OT	min : 70°
	MD	max : 10°		

■ HY-L808

■ HY-L809



Operating characteristics	OF	max : 7.84 N (800 gf)	RF	min : 0.2 N (21 gf)
	PT	max : 20 mm	OT	min : 70°
	MD	max : 10°	TT	min : 90°



Operating characteristics	OF	max : 0.88 N (90 gf)	RF	min : -
	PT	max : 30 mm	OT	min : 20°
	MD	max : -	TT	min : 30 mm

Rating

Rated voltage	LOAD	Resistive load ($\cos\phi\approx 1$)	Inductive load ($\cos\phi\approx 0.4$)
125 V a.c.		5 A	3 A
250 V a.c.		5 A	2 A
125 V d.c.		0.4 A	0.1 A

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.

+ Rating

Value that insures the characteristic and function of limit switch.

+ Inverting spring

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

+ Actuator

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.

+ Electrical life expectancy

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

+ 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)

+ 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.

+ Operation part

Mechanical device part that operates the actuator of limit switch.

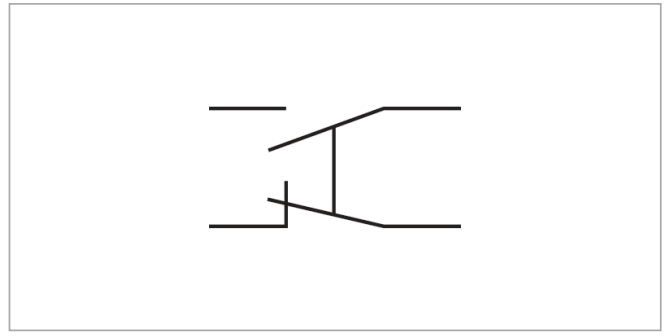
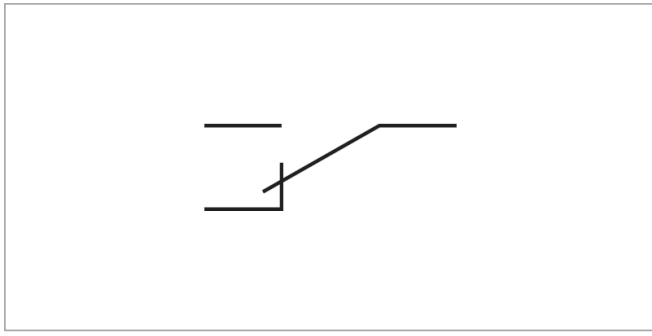
+ Detecting object

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

+ Mechanical life expectancy

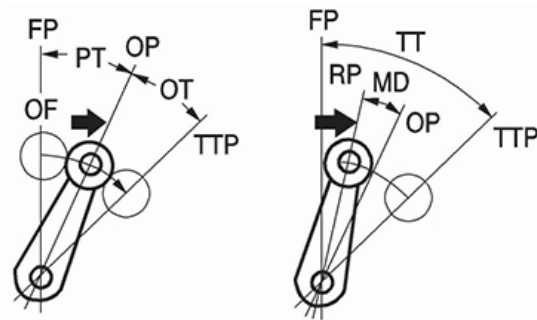
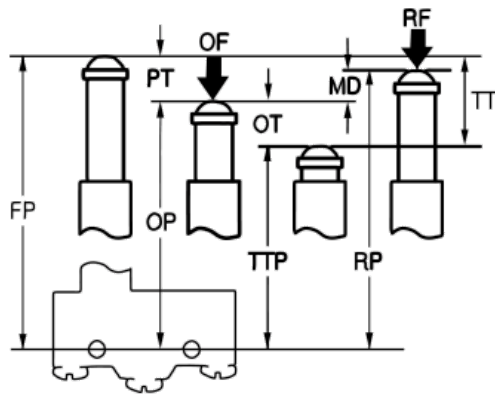
Opening/closing life in the non electro state (After setting the rated value with the operation time)

- 2 circuit double positions (1a1b)



+ 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.
Movement	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.
	Total travel	T.T	Travel distance or travel angle from free position of actuator to the operation limit position.
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.