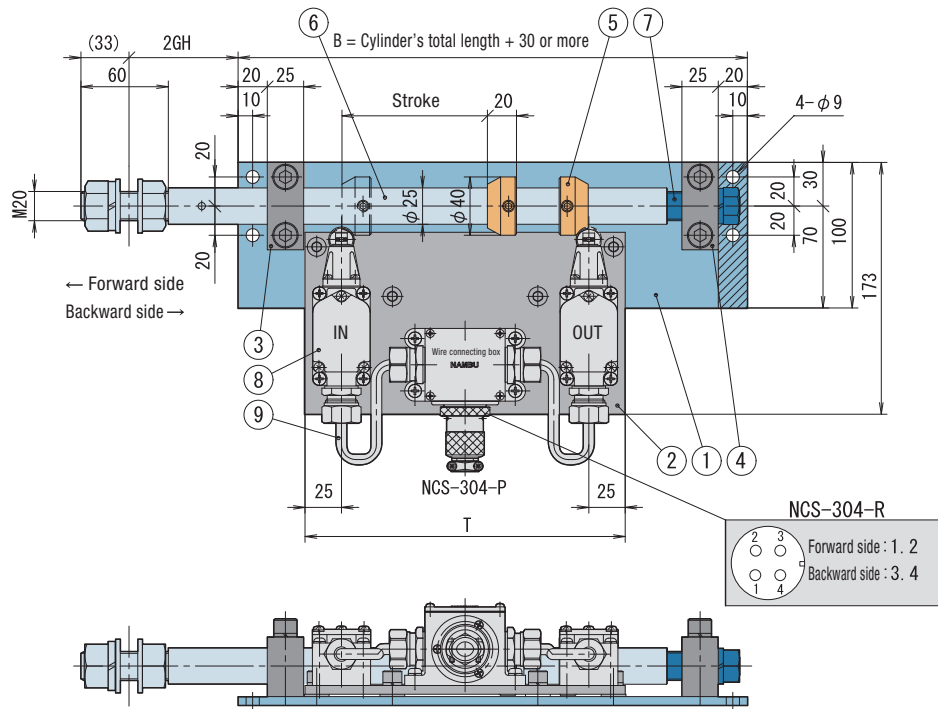
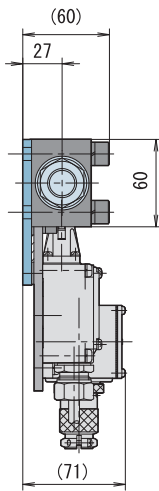


# HLS Type ■ Roller plunger type

## For Single Rod Cylinder



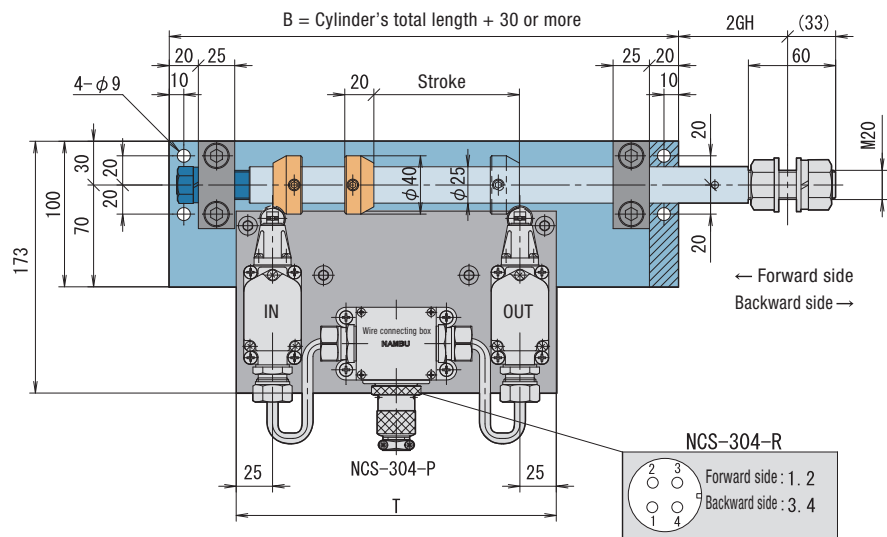
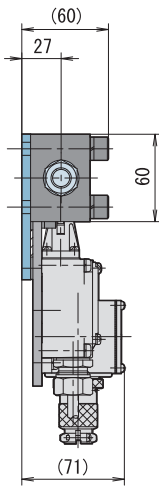
①	Bottom plate
②	Top plate
③	S plate
④	G plate
⑤	Dog
⑥	Slide bar
⑦	Guide bar
⑧	Limit switch Equivalent to Model WLD2-N (OMRON)
⑨	Wire cord VCTF (1.25 mm <sup>2</sup> ) x2 cores

\* Limit switch device is to be longer than cylinder's total length by over 30 mm.

\* In certain cases the hatching part may be cut and dimensions adjusted depending on cylinder's size and stroke.

\* Symmetrical goods also available.

## For Double Rod Cylinder



\* Limit switch device is to be longer than cylinder length by over 30 mm.

\* In certain cases the hatching part may be cut and dimensions adjusted depending on cylinder's size and stroke.

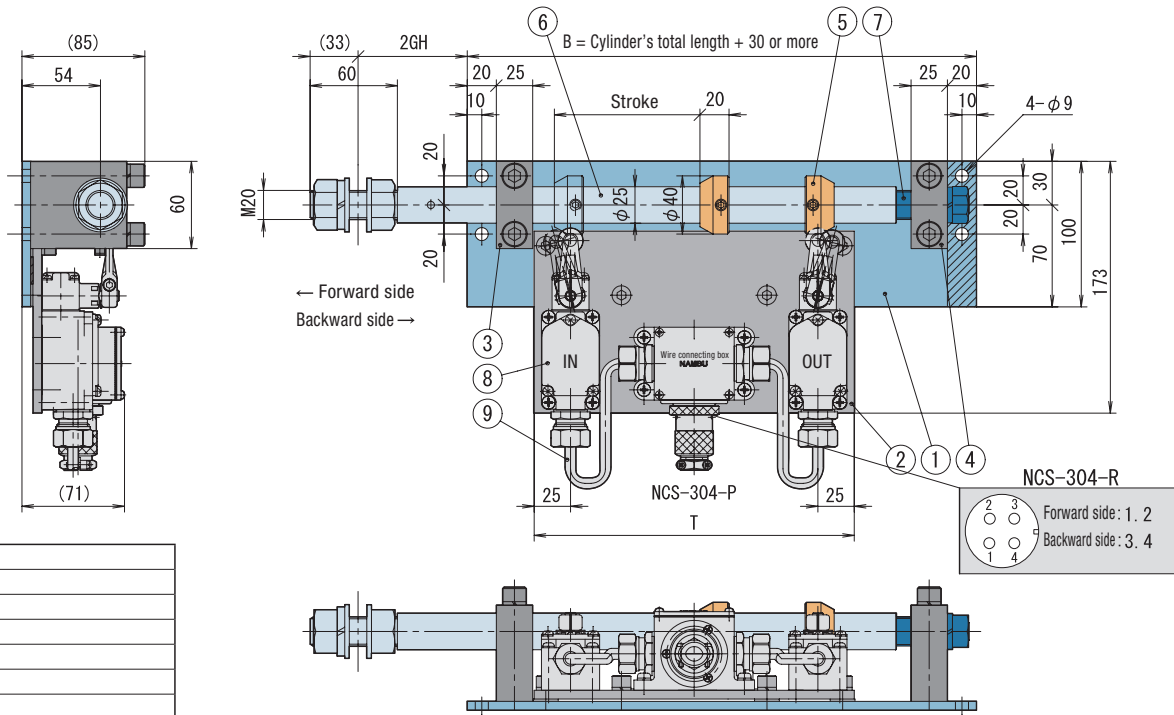
\* Symmetrical goods also available.

Refer to the specifications of the manufacturer for the basic performance of the limit switches.

Specifications in the catalog are subject to change without notice due to improvements in performance and quality.

# HLS Type ■ Roller lever type

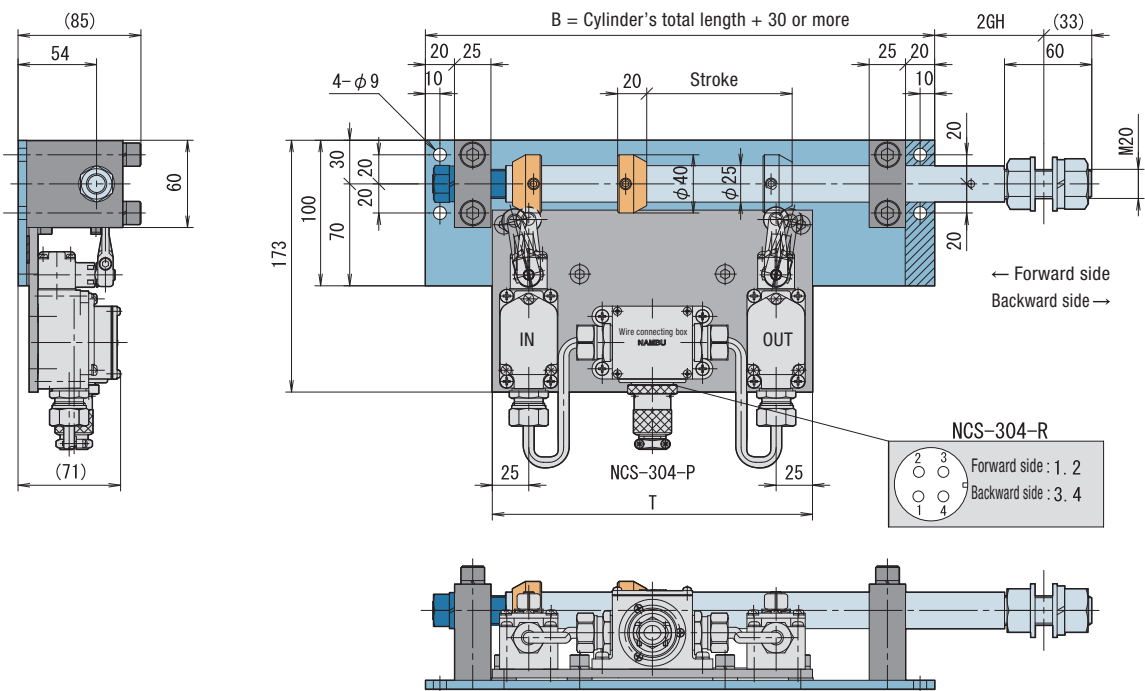
## For Single Rod Cylinder



①	Bottom plate
②	Top plate
③	S plate
④	G plate
⑤	Dog
⑥	Slide bar
⑦	Guide bar
⑧	Limit switch Equivalent to Model WLCA2-N (OMRON)
⑨	Wire cord VCTF (1.25 mm <sup>2</sup> ) x2 cores

- \* Limit switch device is to be longer than cylinder length by over 30 mm.
- \* In certain cases the hatching part may be cut and dimensions adjusted depending on cylinder's size and stroke.
- \* Symmetrical goods also available.

## For Double Rod Cylinder



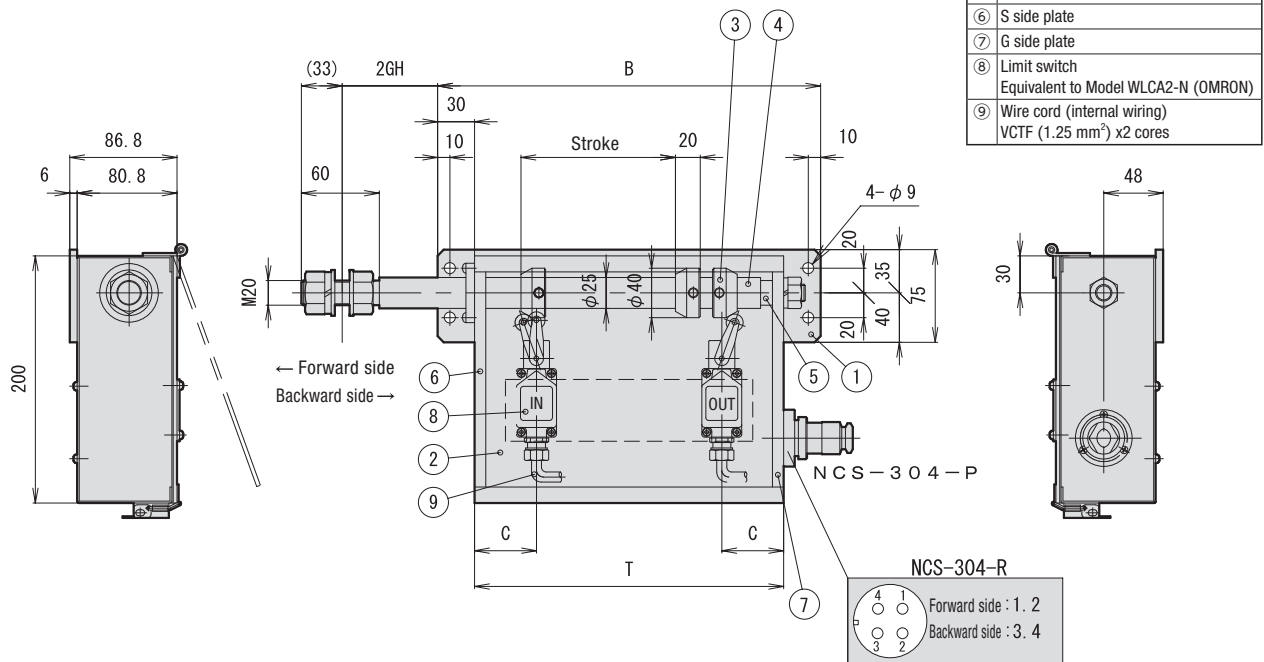
- \* Limit switch device is to be longer than cylinder length by over 30 mm.
- \* In certain cases the hatching part may be cut and dimensions adjusted depending on cylinder's size and stroke.
- \* Symmetrical goods also available.

Refer to the specifications of the manufacturer for the basic performance of the limit switches.

Specifications in the catalog are subject to change without notice due to improvements in performance and quality.

# PS Type ■ Roller lever type

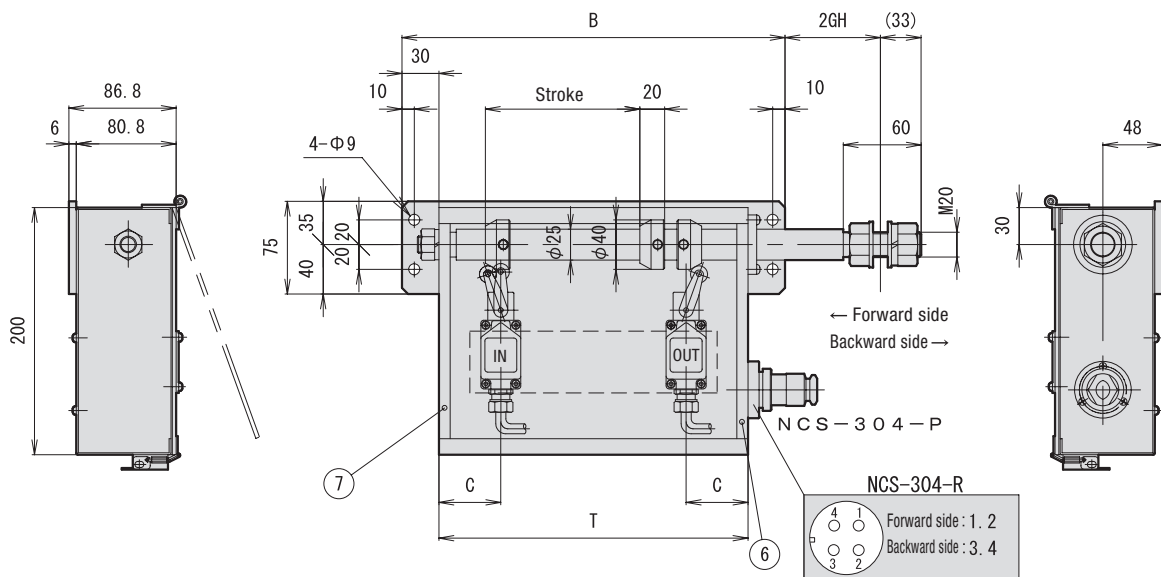
## For Single Rod Cylinder



Although the limit switch device is normally attached so that it stays within the cylinder's total length, please keep in mind that, depending on cylinder's size and stroke, it may be mounted so that it exceeds the cylinder's total length by 30 mm or more.

\* Symmetrical goods also available.

## For Double Rod Cylinder



Although the limit switch device is normally attached so that it stays within the cylinder's total length, please keep in mind that, depending on cylinder's size and stroke, it may be mounted so that it exceeds the cylinder's total length by 30 mm or more.

\* Symmetrical goods also available.

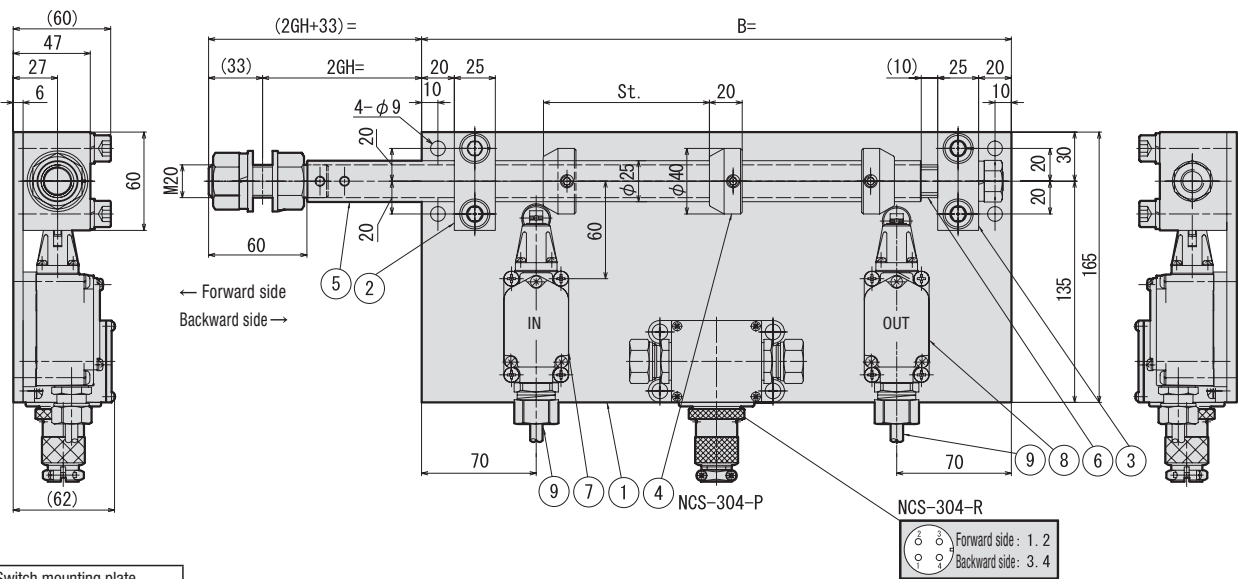
Refer to the specifications of the manufacturer for the basic performance of the limit switches.

Specifications in the catalog are subject to change without notice due to improvements in performance and quality.



# OLS Type ■ Roller plunger type

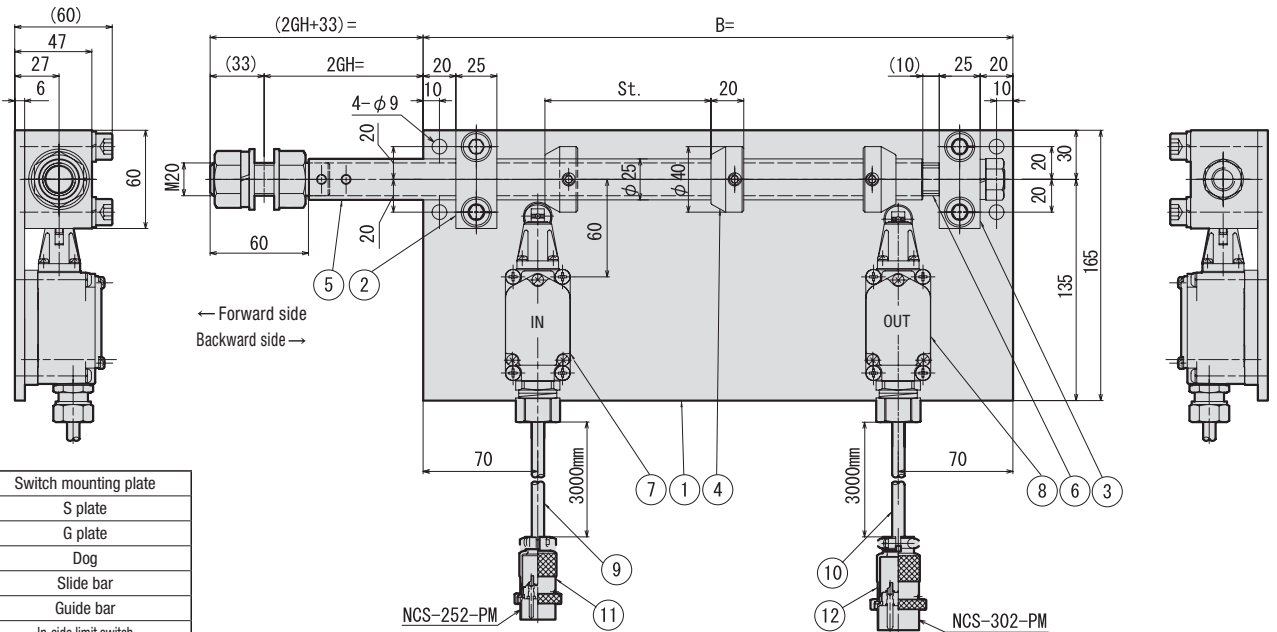
## With wire connecting box



①	Switch mounting plate
②	S plate
③	G plate
④	Dog
⑤	Slide bar
⑥	Guide bar
⑦	In-side limit switch Equivalent to Model WLD2-N (OMRON)
⑧	Out-side limit switch Equivalent to Model WLD2-N (OMRON)
⑨	Wire Cord VCTF (1.25 mm <sup>2</sup> ) x 2 cores

Although the limit switch device is normally attached within the cylinder's total length, please keep in mind that, depending on cylinder's size and stroke, it may be mounted so that it juts out from the cylinder's total length by 30 mm or more.  
\* Symmetrical goods also available.

## Without wire connecting box



①	Switch mounting plate
②	S plate
③	G plate
④	Dog
⑤	Slide bar
⑥	Guide bar
⑦	In-side limit switch Equivalent to Model WLD2-N (OMRON)
⑧	Out-side limit switch Equivalent to Model WLD2-N (OMRON)
⑨	In-side wire cord VCTF (1.25 mm <sup>2</sup> ) x 2 cores
⑩	Out-side wire cord VCTF (1.25 mm <sup>2</sup> ) x 2 cores
⑪	In-side connector Model NCS-252-PM (Nanaboshi)
⑫	Out-side connector Model NCS-302-PM (Nanaboshi)

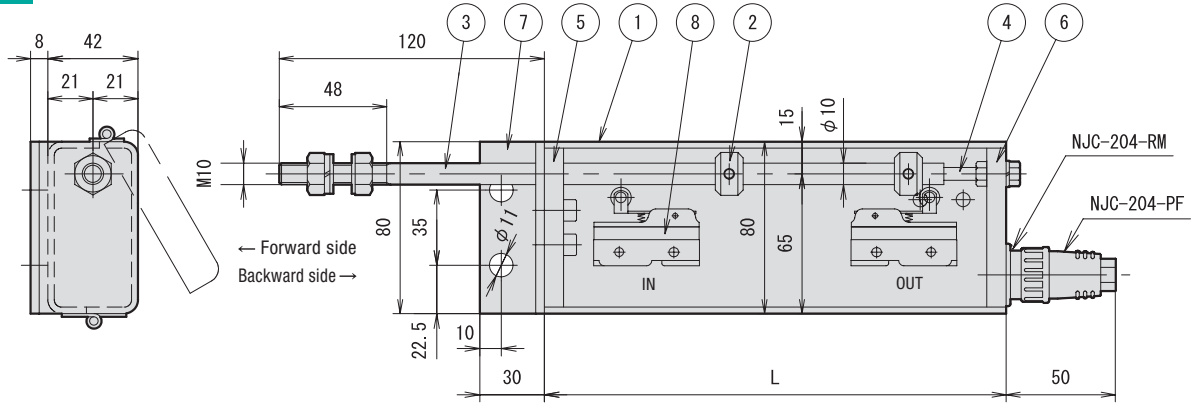
Although the limit switch device is normally attached within the cylinder's total length, please keep in mind that, depending on cylinder's size and stroke, it may be mounted so that it juts out from the cylinder's total length by 30 mm or more.  
\* Symmetrical goods also available.

Refer to the specifications of the manufacturer for the basic performance of the limit switches.

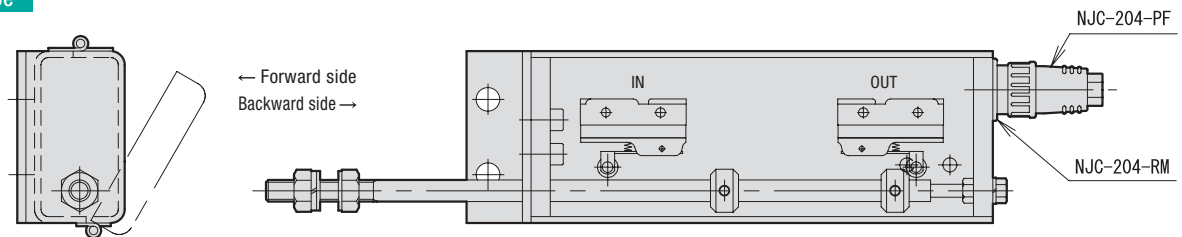
Specifications in the catalog are subject to change without notice due to improvements in performance and quality.



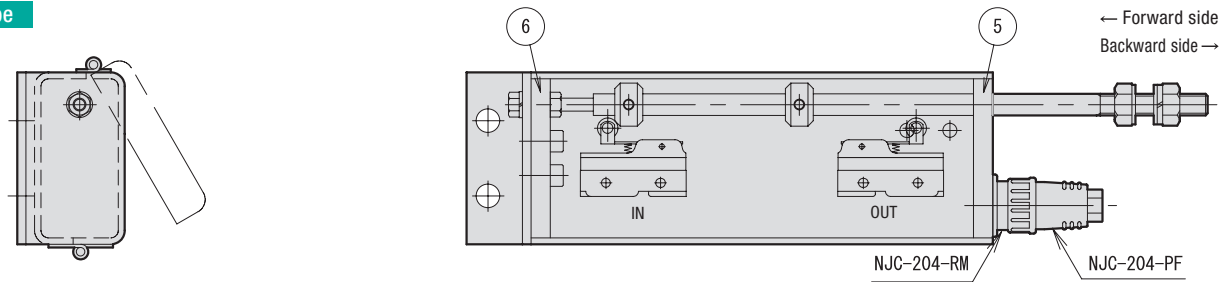
## A type



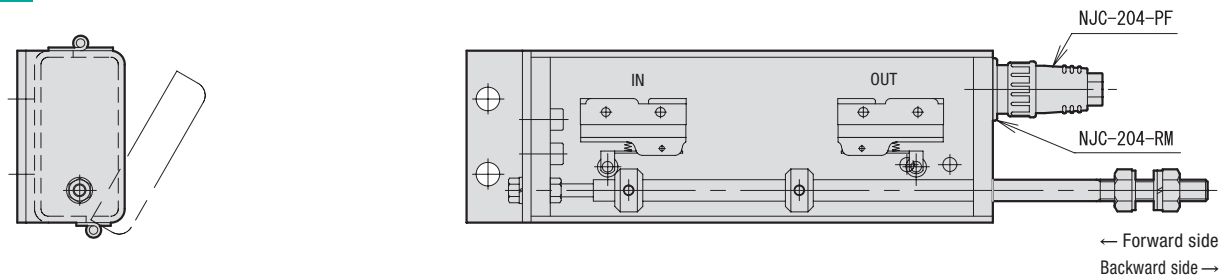
## B type



## C type



## D type



①	Switch box
②	Dog
③	Slide bar
④	Guide bar
⑤	S side plate
⑥	G side plate
⑦	C bracket parts
⑧	Limit switches: Equivalent to Model Z-15GW22-B (OMRON)

Dimensional table

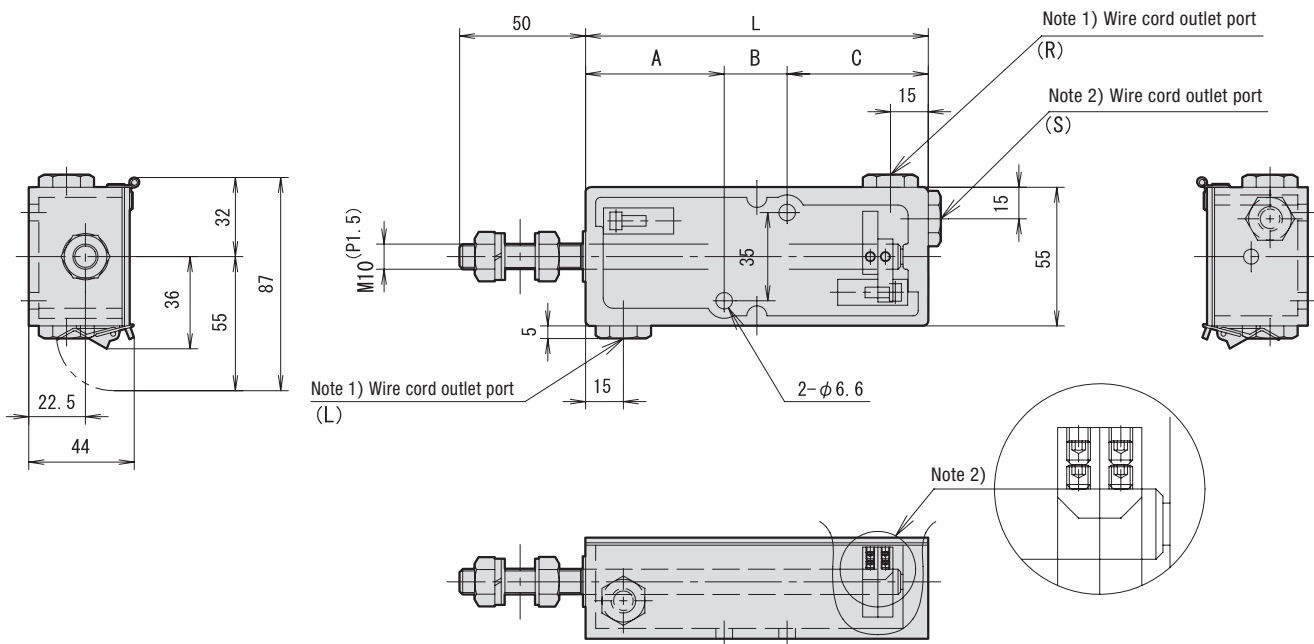
(Unit: mm)

Model	Stroke	Box length L
LST-250	Up to 250	360
LST-300	Up to 300	410
LST-350	Up to 350	460
LST-400	Up to 400	510
LST-450	Up to 450	560
LST-500	Up to 500	610

Please contact us if internal wiring of switch box is required.

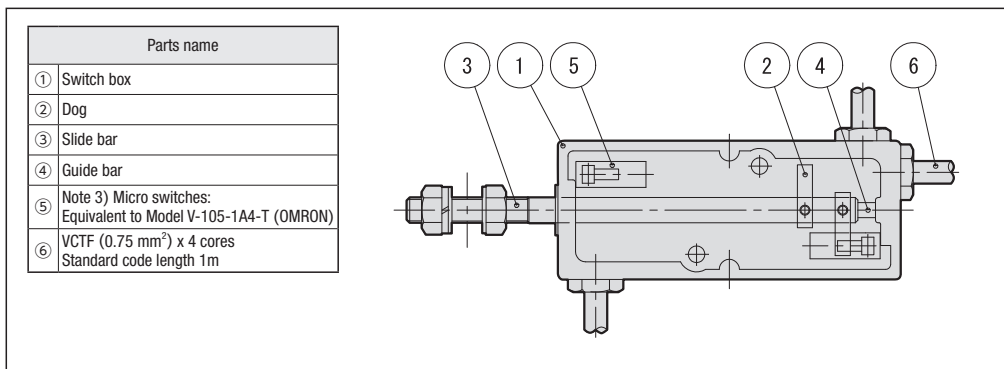
Refer to the specifications of the manufacturer for the basic performance of the limit switches.

Specifications in the catalog are subject to change without notice due to improvements in performance and quality.

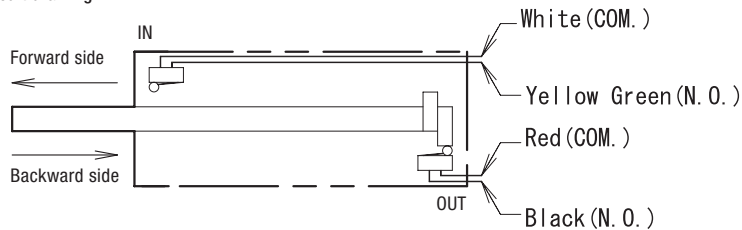


Dimensional table (Unit: mm)

Model	Stroke	L	A	B	C
MS20	Up to 50	85	30	25	30
MS25	Up to 100	136	55	25	56
MS30	Up to 150	189	67	55	67
MS35	Up to 200	240	82	75	83



Circuit drawing



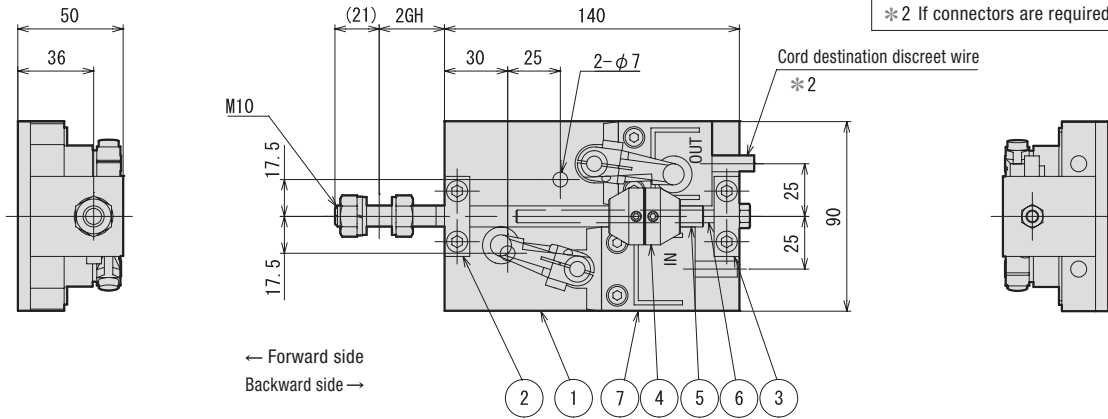
Note 1) Please indicate the direction (L/S/R) of the wire cord outlet port.

Note 2) When adjusting the dog, all adjustments should be made after loosening the set screws (2 pcs).

Note 3) Refer to the specifications of the manufacturer for the basic performance of the micro switches.



## For Single Rod Cylinder Stroke : 60 or less

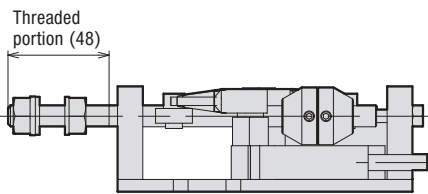


- \*1 Limit switch  
D4C-\*\*24 (-P) ... (Weather resistance)
- └ Electrical rating
  - 1...AC250V 5A, DC30V 4A
  - 4...AC125V 0.1A, DC30V 0.1A
- └ Wire cord
  - 2...3m VCTF oil proof (0.75 mm<sup>2</sup> x 4 cores)
  - 3...5m VCTF oil proof (0.75 mm<sup>2</sup> x 4 cores)
- └ Roller lever (high sensitive)

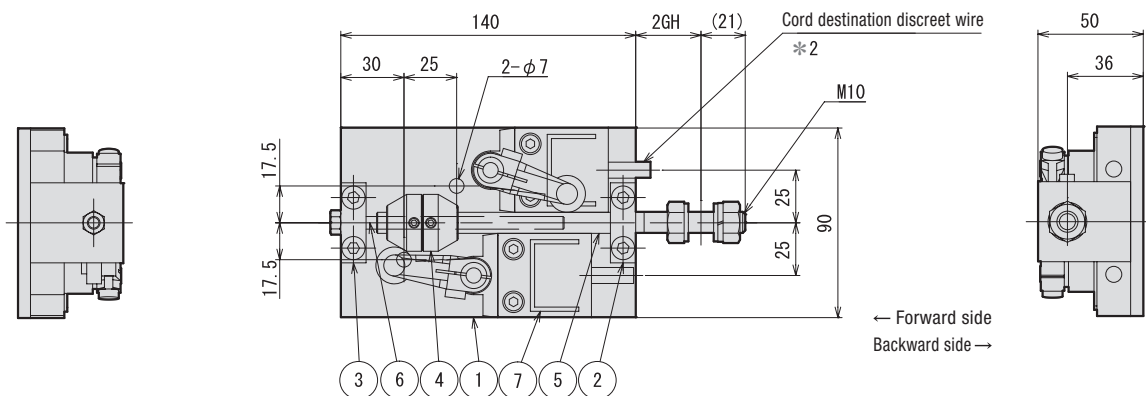
Note) LED indicator lights cannot be attached  
\*2 If connectors are required, please specify so.

No.	Parts Name	QTY.
①	Switch mounting plate	1
②	S plate	1
③	G plate	1
④	Dog	2
⑤	Slide bar	1
⑥	Guide bar	1
⑦	Limit switch (D4C-**24) OMRON	2

\*1



## For Double Rod Cylinder Stroke: 60 or less

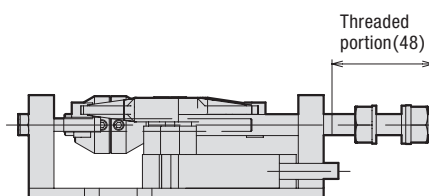


- \*1 Limit switch  
D4C-\*\*24 (-P) ... (Weather resistance)
- └ Electrical rating
  - 1...AC250V 5A, DC30V 4A
  - 4...AC125V 0.1A, DC30V 0.1A
- └ Wire cord
  - 2...3m VCTF oil proof (0.75 mm<sup>2</sup> x 4 cores)
  - 3...5m VCTF oil proof (0.75 mm<sup>2</sup> x 4 cores)
- └ Roller lever (high sensitive)

Note) LED indicator lights cannot be attached  
\*2 If connectors are required, please specify so.

No.	Parts Name	QTY.
①	Switch mounting plate	1
②	S plate	1
③	G plate	1
④	Dog	2
⑤	Slide bar	1
⑥	Guide bar	1
⑦	Limit switch (D4C-**24) OMRON	2

\*1



Refer to the specifications of the manufacturer for the basic performance of the limit switches.  
Specifications in the catalog are subject to change without notice due to improvements in performance and quality.



# Caution for handling the Reed Switch Built-in Type

## 【Stroke adjustment method】

### Tools required for the adjustment

- 1.5 mm Hexagonal wrench (for adjusting the cable direction)
- 2 mm Hexagonal wrench
- Spanner for M4 (7 mm)

- \* From the perspective of reducing environmental impact, we will not include in the shipment the tools required for adjustments. Thank you for your understanding.
- \* A simple continuity tester equipped with a buzzer and a luminous indicator is sold separately as an optional.

### ~ Adjustment method ~

- 1) Make the cylinder move to back and forth several times by hydraulic or pneumatic pressure to ensure that it's operating normally.
  - \* This should initially be done at low pressure.
- 2) Loosen the screw which locks the cord in place with the 1.5 mm hex. Wrench and adjust the orientation of the cord.
- 3) Set the rod piston in the predetermined forward-side (IN) position.
- 4) Connect the forward-side (IN) cables (white and green) to the tester.
- 5) When adjusting the stroke, loosen the nut while keeping the adjusting screw in place with the 2mm hex wrench. With the nut loosened, turn the adjusting screw once to the right (counter-clockwise) until the end.
- 6) Next, turn the adjusting screw to the right (clockwise) and adjust it until conduction is established. After conduction is established, ensure sure to leave room for 4 further turns (2.8 mm).

Stroke adjustment screw (one revolution = 0.7 mm stroke)

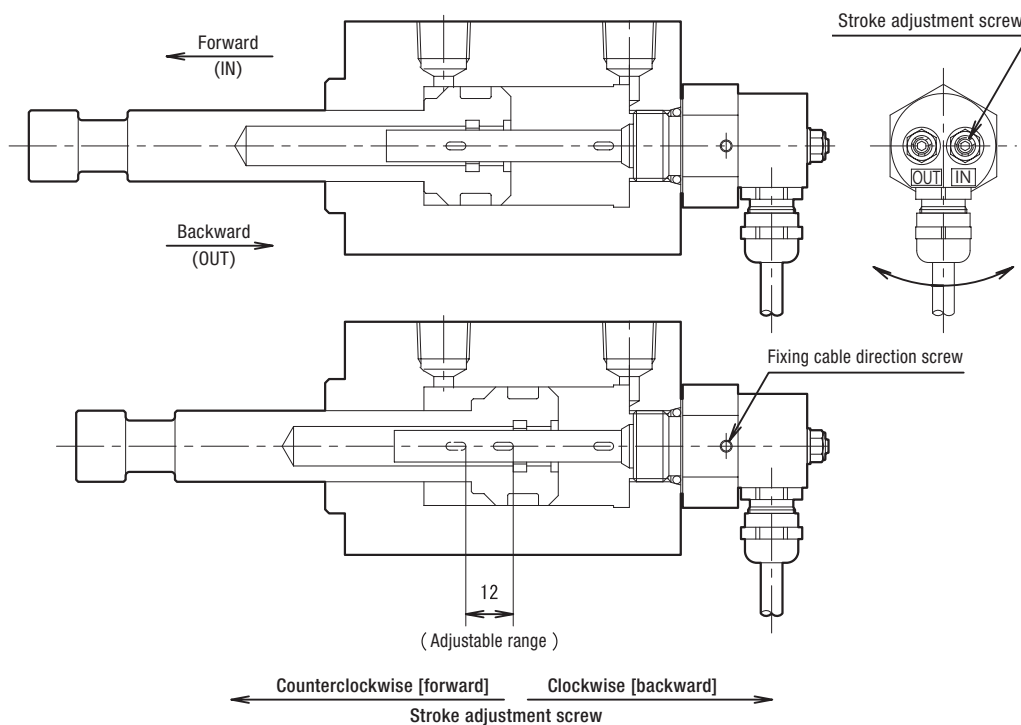
- \* Turn clockwise . . . . . Setting stroke will be shortened (The built-in switch comes forward)
- \* Turn counterclockwise . . . . . Setting stroke will be lengthened (The built-in switch moves backward)

Note: at the time of shipment adjustments have been made to guarantee conduction approx. 2.8 mm in front of both the forward side (IN) and the backward side (OUT).

In principle, backward-side (OUT) adjustment is not required.

(Since adjustments are possible up to 4 mm, by turning the stroke adjustment as described in the above steps 5 and 6, the adjustment method will be reversed.)

- 7) After completing the adjustment, tighten the nut with a spanner while keeping the adjusting screw in place with the 2 mm hex wrench.
  - \* If the nut is tightened without securing the adjusting screw in place with the wrench, the adjustment screw will turn together with the nut and its position will be off.



# Caution for handling the Reed Switch Built-in Type

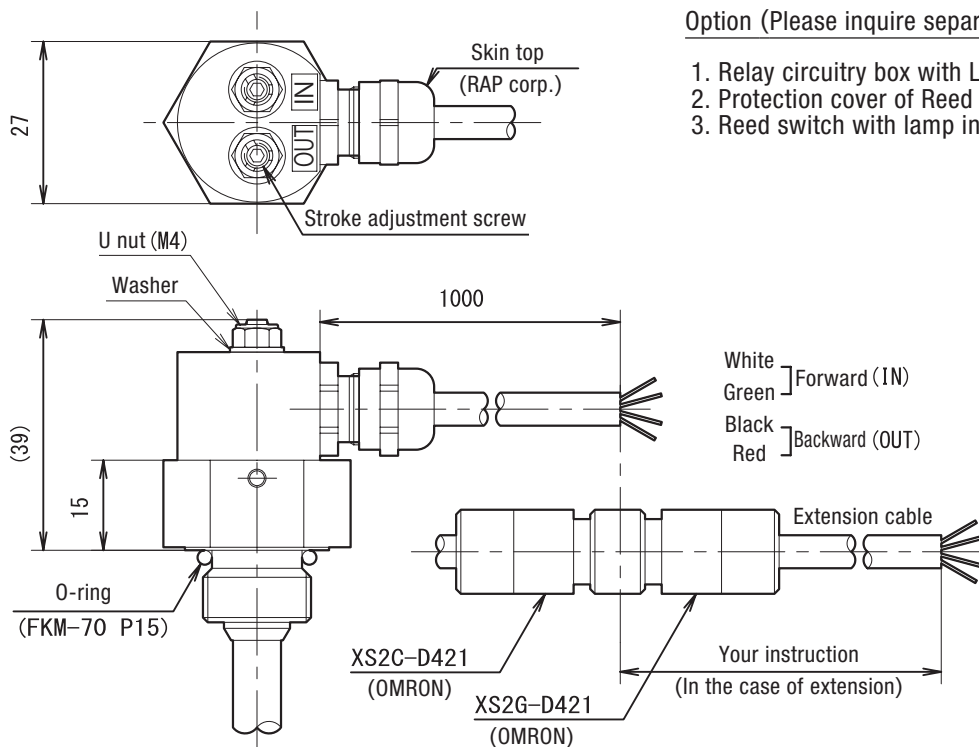
## 【Reed Switch Specifications】

Maximum switching voltage	100V(DC/AC)		
Rated switching current	I	DC/AC 100V	30mA
	II	DC/AC 24V	100mA
Insulation resistance	more than 20 MΩ		
Hysteresis	Approx. 0.7 mm		
Resonance frequency	2750±250Hz(Single Reed Switch)		
Operating temperature range	-20°C ~ 100°C		
Oil proof pressure	Dynamical pressure 21MPa(210kgf/cm <sup>2</sup> )		
	Static pressure 35MPa(210kgf/cm <sup>2</sup> )		
Hydraulic oil	General mineral hydraulic oil (can be used for water glycol compounds)		
Electrical operating life	DC24V-200mA More than 500,000 times		
Cable	24AWG (0.21mm <sup>2</sup> )×4 cores with bundled shield Outside diameter ≒ 5.0 mm		
Cable length	1000mm		
Minimum cable bend radius	20mm		
Measurement length	15, 20, 30, 40, 50mm(Up to 200 mm can be made.)		
Adjustable range	12mm(Backward side: 4 mm)/9mm(Backward side: 4 mm)[15st only]		
Stroke adjustment	Screw type (A single turn: 0.7 mm)		
Protection standard	IP67		

## 【Other】

- Standard cable length is 1000 mm.  
(Can be extended by attaching the connector. /the cord can also be extended without connecting it.)
- If you specify the length of the cord for connecting to the machine as well as the connectors, we will take care of the installation.
- When performing stroke adjustment, a convenient simple continuity tester is sold separately as an optional.

## Dimension



## Option (Please inquire separately.)

1. Relay circuitry box with LED lamp
2. Protection cover of Reed Switch
3. Reed switch with lamp indication

Color coding of cables and pin numbers of XS2C-D421 and XS2G-D421

1:White. 3:Green (IN) 2:Black. 4:Red (OUT)