

Pencil shaped cylinder/double acting/single rod

SCPD3 Series

● Bore size: ø6/ø10/ø16

JIS symbol



RoHS CAD

Specifications

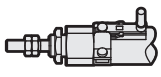
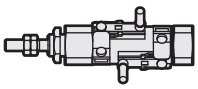
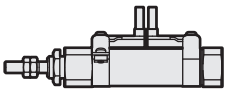
Item		SCPD3 SCPD3-L		
Bore size	mm	ø6	ø10	ø16
Actuation		Double acting		
Working fluid		Compressed air		
Max. working pressure	MPa	1.0 (≈150 psi, 10 bar)		
Min. working pressure	MPa	0.15 (≈22 psi, 1.5 bar)	0.1 (≈15 psi, 1 bar)	
Proof pressure	MPa	1.6 (≈230 psi, 16 bar)		
Ambient temperature	°C	-10 (14°F) to 60 (140°F) (no freezing)		
Port size		M5		
Stroke tolerance	mm	+1.0 0		
Working piston speed	mm/s	50 to 750		
Cushion		Rubber cushion		
Lubrication		Not required (use turbine oil ISO VG32 if necessary for lubrication)		
Allowable absorbed energy	J	0.012	0.041	0.162

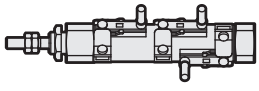
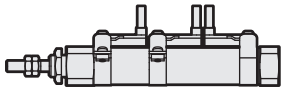
Stroke

Bore size (mm)		Standard stroke (mm)	Max. stroke (mm)	Available stroke (mm)	Min. stroke (mm)
SCPD3	ø6	15/30/45/60	100	105	5
	ø10		200	210	
	ø16		260	270	

*1: The custom stroke is available in 1 mm increments.

Min. stroke with switch

	1		2	
Sketch	 Rod side installation	 Head side installation	 Different surface mounting	 Same surface mounting
Min. stroke	5 mm		10 mm	28 mm

	3	
Sketch	 Different surface mounting	 Same surface mounting
Min. stroke	38 mm	54 mm

Switch specifications

Item	2-wire proximity		3-wire proximity	
	T2H/T2V	T2WH/T2WV	T3H/T3V	T3WH/T3WV
Applications	Dedicated for programmable controller		For programmable controller, relay	
Output method	-		NPN output	
Power supply voltage	-		10 to 28 VDC	
Load voltage	10 to 30 VDC	24 VDC ±10%	30 VDC or less	
Load current	5 to 20 mA (*3)		100 mA or less	50 mA or less
Indicator	LED (Lit when ON)	Red/green LED (Lit when ON)	LED (Lit when ON)	Red/green LED (Lit when ON)
Leakage current	1 mA or less		10 μA or less	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

Item	2-wire reed			
	T0H/T0V		T5H/T5V	
Applications	For programmable controller, relay		For programmable controller, relay, IC circuit (without indicator lamp), serial connection	
Load voltage	12/24 VDC	110 VAC	5/12/24 VDC	110 VAC
Load current	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less
Indicator	LED (Lit when ON)		No indicator lamp	
Leakage current	0 mA		0 mA	
Weight g	1 m:18 3 m:49 5 m:80		1 m:18 3 m:49 5 m:80	

*1: Refer to Ending Page 1 for detailed switch specifications and dimensions.
*2: Switches other than the above models, such as switches with connectors, are also available. Refer to Ending Page 1.
*3: The max. load current is 20 mA at 25°C. The current is lower than 20 mA if the operating ambient temperature around the switch is higher than 25°C. (5 to 10 mA at 60°C)

Cylinder weight

(Unit: g)

Item / Bore size (mm)	Mounting bracket weight: Foot L S	Mounting bracket weight: Flange FA	Mounting bracket weight: Clevis CB	Product weight when at 0 mm stroke	Additional weight per 10 mm stroke	Switch weight (per switch)	Mounting bracket weight
ø6	6	4	-	13	1	Refer to the weight in the switch specifications.	2
ø10	6	4	4	21	2		
ø16	15	12	10	42	3		

(Example) Product weight of SCPD3-L-LS-10-30-T0H-D
- Mounting bracket weight (foot) ..... 6 g
- Product weight for 0 mm stroke ..... 21 g
- Additional weight for 30 mm stroke ..... 2x30/10=6 g
- Switch weight ..... 2x(18+2)=40 g
- Product weight ..... 6+21+6+40=73 g

Theoretical thrust table

(Unit: N)

Bore size (mm)	Operating direction	Working pressure MPa: 0.1	0.15	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
ø6	Push	–	4.24	5.65	8.48	11.3	14.1	17.0	19.8	22.6	25.4	28.3
	Pull	–	3.18	4.24	6.36	8.48	10.6	12.7	14.8	17.0	19.1	21.2
ø10	Push	7.85	11.8	15.7	23.6	31.4	39.3	47.1	55.0	62.8	70.7	78.5
	Pull	6.60	9.90	13.2	19.8	26.4	33.0	39.6	46.2	52.8	59.4	66.0
ø16	Push	20.1	30.2	40.2	60.3	80.4	1.01×10^2	1.21×10^2	1.41×10^2	1.61×10^2	1.81×10^2	2.01×10^2
	Pull	18.1	27.2	36.3	54.4	72.6	90.7	1.09×10^2	1.27×10^2	1.45×10^2	1.63×10^2	1.81×10^2

How to order

No switch (without magnet for switch)

SCPD3 - 00 - 10 - 15 - O ——— Y

With switch (built-in magnet for switch)

SCPD3-L - 00 - 10 - 15 - O - T2H - R - Y

Ⓐ Model No.

Ⓑ Mounting *1

Ⓒ Bore size

Ⓓ Stroke

Ⓔ Head side port direction *1

Ⓕ Switch model No. *3, *6
* indicates the lead wire length.

Ⓖ Switch quantity

Ⓗ Accessory *4

Code	Description
Ⓐ Model No.	
SCPD3	Double acting
SCPD3-L	Double acting/with switch

Ⓑ Mounting

Bore size (ø)		6	10	16
00	Basic	●	●	●
LS	Axial foot (one side) (rod side)	●	●	●
FA	Rod side flange	●	●	●
CB	Clevis bracket (pin and snap ring incl.)		●	●

Ⓒ Bore size (mm)

6	ø6
10	ø10
16	ø16

Ⓓ Stroke (mm)

Bore size	Stroke *2	Available stroke	Custom stroke
ø6	**5 to 100**	**105**	In 1 mm increments
ø10	**5 to 200**	**210**	
ø16	**5 to 260**	**270**	

Ⓔ Head side port direction

Blank	Vertical
O	Axial direction

Ⓕ Switch model No.

Lead wire Straight	Lead wire L-shaped	Contact	Voltage AC	Voltage DC	Indicator	Lead wire
T0H*	**T0V***	Reed	●	●	1-color LED	2-wire
T5H*	**T5V***		●	●	No indicator lamp	
T2H*	**T2V***	Proximity		●	1-color LED	2-wire
T3H*	**T3V***			●		3-wire
T2WH*	**T2WV***			●	2-color LED	2-wire
T3WH*	**T3WV***			●		3-wire

*** Lead wire length**

Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

Ⓖ Switch quantity

R	1 on rod side
H	1 on head side
D	2
T	3

Ⓗ Accessory

Bore size (ø)		6	10	16
I	Rod eye		●	●
Y	Rod clevis (pin and snap ring included)		●	●
B1	Eye bracket		●	●
B2	Clevis bracket		●	●

Precautions for model No. selection

*1 : The “CB” mounting is not available when the port direction is “0” (axial direction).
*2 : Refer to page 8 for the min. stroke with switch.
*3 : Magnet is not built into the type without switch.
*4 : “I” and “Y” cannot be selected together.
*5 : Copper and PTFE free as standard.
*6 : Switches are shipped with the product.

[Example of model No.]
SCPD3-L-00-10-30-O-T2H-R-I
Model: Pencil shaped cylinder

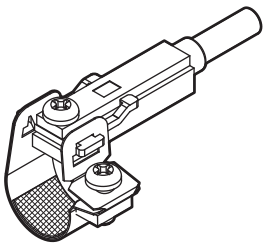
Ⓐ	Model No.	: Double acting
Ⓑ	Mounting	: Basic
Ⓒ	Bore size	: ø10 mm
Ⓓ	Stroke	: 30 mm
Ⓔ	Head side port direction	: Axial direction
Ⓕ	Switch model No.	: Proximity switch T2H, lead wire 1 m
Ⓖ	Switch quantity	: 1 on rod side
Ⓗ	Accessory	: Rod eye

How to order switch

● Switch body + mounting bracket set

SCPD3 - T0H - 6

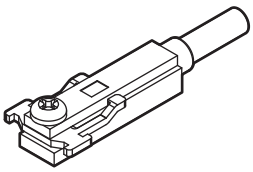
- 6: Bore size (Item Ⓒ on page 10)
- T0H: Switch model No. (Item Ⓕ on page 10)



● Switch body (with fixing bracket)

SCPD3 - T0H

- T0H: Switch model No. (Item Ⓕ on page 10)

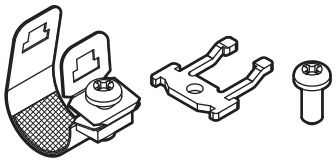


Note) The fixing bracket and cross-recessed pan head machine screw are different from those for the T standard switch.

● Mounting bracket set + fixing bracket

SCPD3 - TS - 6

- 6: Bore size (Item Ⓒ on page 10)

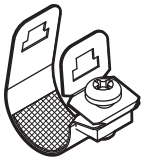


When 20 pcs or more are ordered, they will be packed together.

● Mounting bracket set

SCPD3 - T - 6

- 6: Bore size (Item Ⓒ on page 10)



When 20 pcs or more are ordered, they will be packed together.

How to order mounting bracket

Bore size (mm) / Mounting bracket	ø6	ø10	ø16
Foot (LS)	P2-LS-6	P2-LS-10	P2-LS-16
Flange (FA)	P2-FA-6	P2-FA-10	P2-FA-16

Note: The foot (LS) mounting bracket is provided as 1 pc./set.