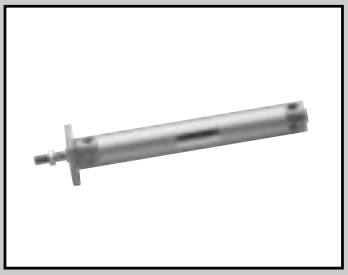
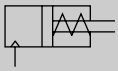


Round shaped medium bore size cylinder
Single acting extend type

SCM-X Series

● Bore size: ϕ20, ϕ25, ϕ32, ϕ40

JIS symbol



RoHS CAD

Specifications

Descriptions		SCM-X			
Bore size	mm	ϕ20	ϕ25	ϕ32	ϕ40
Actuation		Single acting/extend type			
Working fluid		Compressed air			
Max. working pressure	MPa	1.0			
Min. working pressure	MPa	0.2			
Withstanding pressure	MPa	1.6			
Ambient temperature	℃	-10 to 60 (no freezing)			
Port size		Rc1/8			
Stroke tolerance	mm	+2.0 0			
Working piston speed	mm/s	500 to 1000 (use within the allowable energy absorption.)			
Cushion		Rubber cushion			
Lubrication		Not required (when lubricating, use turbine oil ISO VG32.)			
Allowable energy absorption	J	0.1	0.2	0.5	0.9

Note: Do not leave a single acting cylinder at pressurized state. When release a pressure, piston rod may not return by spring force after leaving under elevated pressure.

Stroke length

Bore size (mm)	Standard stroke length (mm)	Max. stroke length (mm)	Min. stroke length (mm)
ϕ 20	25, 50, 75 100, 125 150, 200	200	5
ϕ 25			
ϕ 32			
ϕ 40			

Note 1: Custom stroke length is available per 1 mm increment.

Switch quantity and min. stroke length (mm)

● Switch installation method: Rail method

Switch quantity	1		2		3		4		5	
Bore size (mm)	Proximity	Reed	Proximity	Reed	Proximity	Reed	Proximity	Reed	Proximity	Reed
ϕ 20	10		25		40	50	55		75	85
ϕ 25	10		25		40	50	55		75	85
ϕ 32	10		25		40	50	55		75	85
ϕ 40	10		25		40	50	55		75	85

● Switch installation method: Band method

Switch quantity	1			2			3			4			5		
Bore size (mm)	Proximity		Reed	Proximity		Reed	Proximity		Reed	Proximity		Reed	Proximity		Reed
	T2, T3	T*Y*		T2, T3	T*Y*		T2, T3	T*Y*		T2, T3	T*Y*		T2, T3	T*Y*	
ϕ 20	10			25	35	25	50	55	50	75	80	70	95	100	95
ϕ 25	10			25	35	25	50	55	50	75	80	70	95	100	95
ϕ 32	10			25	35	25	50	55	50	75	80	70	95	100	95
ϕ 40	10			25	35	25	50	55	50	75	80	70	95	100	95

Note 1: Trunion mounting is not available when installing one switch with a stroke of 10 mm or more, less than 25 mm, since the switch rail mounting position will change. Refer to page 333 for installation position.

Switch specifications

● 1 color/2 color indicator

* The T0/T5 switch can be used with 220 VAC. Contact CKD for working conditions.

Descriptions	Proximity 2-wire			Proximity 3-wire			Reed 2-wire						
	T1H/T1V	T2H/T2V/ T2JH/T2JV	T2YH/ T2YV	T3H/T3V	T3PH/T3PV (Custom order)	T3YH/ T3YV	T0H/T0V		T5H/T5V		T8H/T8V		
Applications	Programmable controller, relay, small solenoid valve	Programmable controller dedicated		Programmable controller, relay			Programmable controller, relay		Programmable controller, relay, IC circuit (w/o light), serial connection		Programmable controller, relay		
Output method	-			NPN output	PNP output	NPN output	-						
Power voltage	-			10 to 28 VDC			-						
Load voltage	85 to 265 VAC	10 to 30 VDC		30 VDC or less			12/24 VDC	110 VAC	5/12/24 VDC	110 VAC	12/24 VDC	110 VAC	220 VAC
Load current	5 to 100 mA	5 to 20 mA (Note 1)		100 mA or less		50 mA or less	5 to 50 mA	7 to 20 mA	50 mA or less	20 mA or less	5 to 50 mA	7 to 20 mA	7 to 10 mA
Light	LED (ON lighting)	LED (ON lighting)	Red/Green LED (ON lighting)	LED (ON lighting)	Green LED (ON lighting)	Red/green LED (ON lighting)	LED (ON lighting)		without light		LED (ON lighting)		
Leakage current	1 mA or less with 100 VAC 2 mA or less with 200 VAC	1 mA or less		10 μA or less			0 mA						

● With preventive maintenance output

Descriptions		Proximity 3-wire	Proximity 4-wire	Proximity 3-wire	Proximity 4-wire
		T2YFH/V	T3YFH/V	T2YMH/V	T3YMH/V
Applications		Programmable controller dedicated	Programmable controller, relay	Programmable controller dedicated	Programmable controller, relay
Output method		NPN output			
Light	Installation position adjustment	Red/Green LED (ON lighting)			
	Preventive maintenance output	-		Yellow LED (ON lighting)	
Regular output	Power voltage	-	10 to 28 VDC	-	10 to 28 VDC
	Load voltage	10 to 30 VDC	30 VDC or less	10 to 30 VDC	30 VDC or less
	Load current	5 to 20 mA	50 mA or less	5 to 20 mA	50 mA or less
	Leakage current	1 mA or less	10 μA or less	1.2 mA or less	10 μA or less
Preventive maintenance output	Load voltage	30 VDC or less			
	Load current	20 mA or less	50 mA or less	5 to 20 mA or less	50 mA or less
	Leakage current	10 μA or less			

Note 1: Refer to Ending 1 for other switch specifications.
Note 2: Max. load current above: 20 mA at 25 ℃. The current will be lower than 20 mA if ambient temperature around switch is higher than 25 ℃ .
(5 to 10mA at 60 ℃)

Spring load

(Unit: N)

Bore size (mm)	Stroke length 0 mm	Full stroke length during operation
ϕ20	11.8	38
ϕ25	12.5	40.2
ϕ32	24.3	54.9
ϕ40	28.4	100

Cylinder weight (stroke length: 5 to 50)

(Unit: kg)

Descriptions/mounting style / Port size	Product weight when stroke length (S) = 0 mm					Switch weight	Additional weight per S = 10 mm	Additional weight per S = 10 mm (with rail)	Band weight per 1 switch
	Basic type	Axial foot type	Flange type	Clevis type	Trunnion type	Grommet			
ϕ20	0.15	0.26	0.18	0.20	0.16	0.018	0.010	0.012	0.007
ϕ25	0.24	0.37	0.28	0.32	0.26	0.018	0.014	0.016	0.007
ϕ32	0.36	0.52	0.42	0.51	0.39	0.018	0.018	0.020	0.007
ϕ40	0.59	0.81	0.67	0.82	0.64	0.018	0.030	0.032	0.007

Cylinder weight (stroke length: 51 to 100)

(Unit: kg)

Descriptions/mounting style / Port size	Product weight when stroke length (S) = 0 mm					Switch weight	Additional weight per S = 10 mm	Additional weight per S = 10 mm (with rail)	Band weight per 1 switch
	Basic type	Axial foot type	Flange type	Clevis type	Trunnion type	Grommet			
ϕ20	0.19	0.30	0.22	0.24	0.20	0.018	0.010	0.012	0.007
ϕ25	0.32	0.45	0.36	0.40	0.34	0.018	0.014	0.016	0.007
ϕ32	0.46	0.62	0.52	0.61	0.49	0.018	0.018	0.020	0.007
ϕ40	0.76	0.98	0.84	0.99	0.81	0.018	0.030	0.032	0.007

Cylinder weight (stroke length: 101 to 150)

(Unit: kg)

Descriptions/mounting style / Port size	Product weight when stroke length (S) = 0 mm					Switch weight	Additional weight per S = 10 mm	Additional weight per S = 10 mm (with rail)	Band weight per 1 switch
	Basic type	Axial foot type	Flange type	Clevis type	Trunnion type	Grommet			
ϕ20	0.24	0.35	0.27	0.29	0.25	0.018	0.010	0.012	0.007
ϕ25	0.39	0.52	0.43	0.47	0.41	0.018	0.014	0.016	0.007
ϕ32	0.55	0.71	0.61	0.70	0.58	0.018	0.018	0.020	0.007
ϕ40	0.94	1.16	1.02	1.17	0.99	0.018	0.030	0.032	0.007

Cylinder weight (stroke length: 151 to 200)

(Unit: kg)

Descriptions/mounting style / Port size	Product weight when stroke length (S) = 0 mm					Switch weight	Additional weight per S = 10 mm	Additional weight per S = 10 mm (with rail)	Band weight per 1 switch
	Basic type	Axial foot type	Flange type	Clevis type	Trunnion type	Grommet			
ϕ20	0.29	0.40	0.32	0.34	0.30	0.018	0.010	0.012	0.007
ϕ25	0.46	0.59	0.50	0.54	0.48	0.018	0.014	0.016	0.007
ϕ32	0.65	0.81	0.71	0.80	0.68	0.018	0.018	0.020	0.007
ϕ40	1.11	1.33	1.19	1.34	1.16	0.018	0.030	0.032	0.007

(E.g.) Product weight of SCM-X-LB-40D-100-T2H-D

- Product weight when S = 0 mm ····· 0.98 kg
- Additional weight when S = 100 mm ····· 0.032 x $\frac{100}{10}$ =0.32 kg
- Weight of 2 switches ····· 0.036 kg
- Product weight ····· 0.98 kg + 0.32 kg + 0.036 kg = 1.336 kg

How to order

Without switch

SCM-X - LB - 40 ○ D - 100 ——— J I

With switch

SCM-X - LB - 40 ○ D - 100 - T0H - D - ○ J I

Ⓐ Mounting style Note 1
Ⓑ Bore size
Ⓒ Port thread type
Ⓓ Cushion
Ⓔ Stroke length
Ⓕ Switch model no. Note 3
Ⓖ Switch quantity Note 4
Ⓗ Switch installation method
Ⓘ Option Note 4, Note 6
Ⓙ Accessory Note 7

Symbol	Descriptions
Ⓐ Mounting style	
00	Basic type
LB	Axial foot type
FA	Rod end flange type
FB	Head end flange type
CA	Eye bracket type
TA	Rod end trunnion type
TB	Head end trunnion type

Ⓑ Bore size (mm)	
20	ϕ 20
25	ϕ 25
32	ϕ 32
40	ϕ 40

Ⓒ Port thread type	
Blank	Rc thread
N	NPT thread (custom order)
G	G thread (custom order)

Ⓓ Cushion	
D	Both sides rubber cushioned

Ⓔ Stroke length (mm)		
Bore size	**Stroke length Note 2**	**Custom stroke length**
ϕ20 to ϕ40	**5 to 200**	**Per 1 mm**

Ⓕ Switch model no.

Axial lead wire	Radial lead wire	Contact	Indicator	Lead wire
T0H*	**T0V***	Reed	1 color indicator type	2-wire
T5H*	**T5V***		without light	
T8H*	**T8V***		1 color indicator type	
T1H*	**T1V***	Proximity	1 color indicator type	2-wire
T2H*	**T2V***			
T3H*	**T3V***			3-wire
T3PH*	**T3PV***		1 color indicator type (custom order)	
T2YH*	**T2YV***		2 color indicator type	2-wire
T3YH*	**T3YV***			3-wire
T2YFH*	**T2YFV***		2 color indicator type (W/o light for preventive maintenance output)	3-wire
T3YFH*	**T3YFV***			4-wire
T2YMH*	**T2YMV***		2 color indicator type (W/ light for preventive maintenance output (1 color))	3-wire
T3YMH*	**T3YMV***			4-wire
T2YD*	**-**		Strong magnetic field proof switch	2-wire
T2YDT*	**-**			
T2JH*	**T2JV***		Off-delay type	2-wire

***Lead wire length**	
Blank	1 m (standard)
3	3 m (option)
5	5 m (option)

Ⓖ Switch quantity	
R	One on rod end
H	One on head end
D	Two
T	Three
4	4 switches (When more than 4 switches, indicate switch quantity.)

Ⓗ Switch installation method	
Blank	Rail method
Z	Band method

Ⓘ Option			
		Max. ambient	Max. instantaneous
J	Bellows material	60 ℃	100 ℃
K	Bellows material	100 ℃	200 ℃
L	Bellows material	250 ℃	400 ℃
Q	Switch rail attached at shipment		
M	Piston rod material (stainless steel)		
P6	Copper and PTFE free		

Ⓙ Accessory	
I	Rod eye
Y	Rod clevis (pin and snap ring attached)
B2	Clevis bracket

⚠Note on model no. selection

Note 1: The mounting bracket is shipped with the product.
Note 2: Refer to page 244 for switch quantity and min. stroke length.
Note 3: Switches other than switch model no. "F" are available. (Custom order)
Refer to Ending 1 for details.
Note 4: The instantaneous maximum temperature is that at which sparks, swarf, etc., temporarily contact bellows.
Note 5: Refer to Ending 89 about custom specifications of rod end form.
Note 6: When the switch mounting type "Z" is selected, the switch rail enclosed shipment "Q" cannot be selected.
Note 7: "I" and "Y" can not be selected at the same time.

<Example of model number>

SCM-X-LB-40D-100-T0H-D-JI

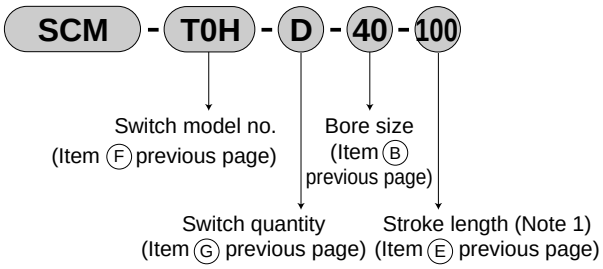
Model: Round shaped cylinder single acting extend type

Ⓐ	Mounting style	: Axial foot type
Ⓑ	Bore size	: ϕ 40 mm
Ⓒ	Port thread type	: Rc thread
Ⓓ	Cushion	: Both sides rubber cushioned
Ⓔ	Stroke length	: 100 mm
Ⓕ	Switch model no.	: Proximity T0H switch, lead wire 1 m
Ⓖ	Switch quantity	: 2
Ⓗ	Switch installation method	: Rail method
Ⓘ	Option	: Bellows material/max. ambient temperature 60 ℃
Ⓙ	Accessory	: Rod eye

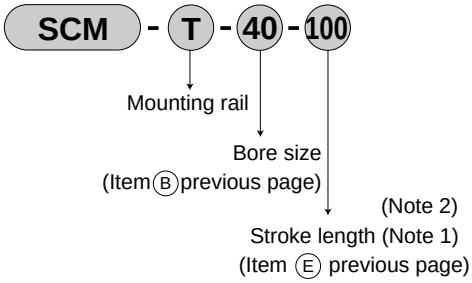
How to order switch

(switch installation method: rail method)

● Switch body + mounting rail set



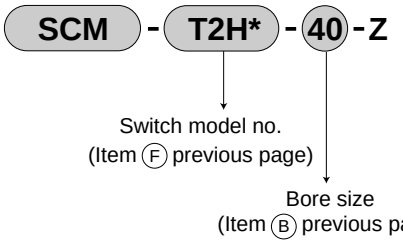
● Only mounting rail



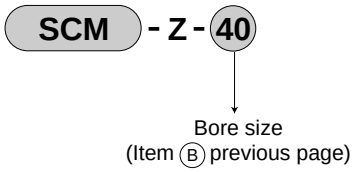
Note 1: When more than 300 mm stroke, indicate "X".
When more than 300 mm stroke, a short rail
(100 mm switch adjustment distance) is provided per switch.
Note 2: When X is indicated only with the mounting rail,
order the same number of rails as the number of switches being used.

(switch installation method: band method)

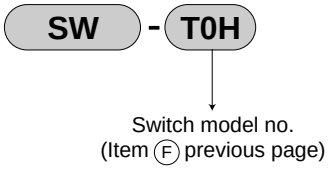
● Switch body + mounting rail + band



● Mounting rail + band



(only switch body)



How to order mounting bracket

Bore size (mm) / Mounting bracket	ϕ 20	ϕ 25	ϕ 32	ϕ 40
Foot (LB)	SCM-LB-20	SCM-LB-25	SCM-LB-32	SCM-LB-40
Flange (FA/FB)	SCM-FA-20	SCM-FA-25	SCM-FA-32	SCM-FA-40
Eye (CA)	SCM-CA-20	SCM-CA-25	SCM-CA-32	SCM-CA-40
Trunnion (TA/TB)	SCM-TA-20	SCM-TA-25	SCM-TA-32	SCM-TA-40

Note 1: Mounting bolts are attached to each mounting bracket.
Note 2: 2 piece/set is applied for a foot type mounting bracket.