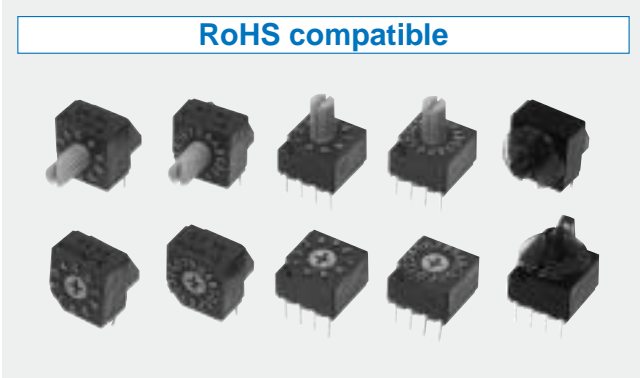


ROTARY CODED SWITCHES

S-1000A/2000A

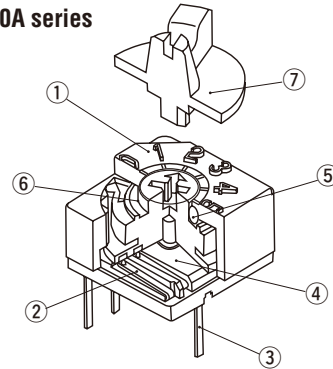
RoHS compatible



FEATURES

- Lead-free soldering
- Protection against dust and whole cleaning after soldering is possible
- Pin compatible with conventional DIP switches
- Translucent knob with flange type (S-1200A/2200A series)
 - Distinguished visibility with translucent flange
 - Settable with fingers or screwdriver

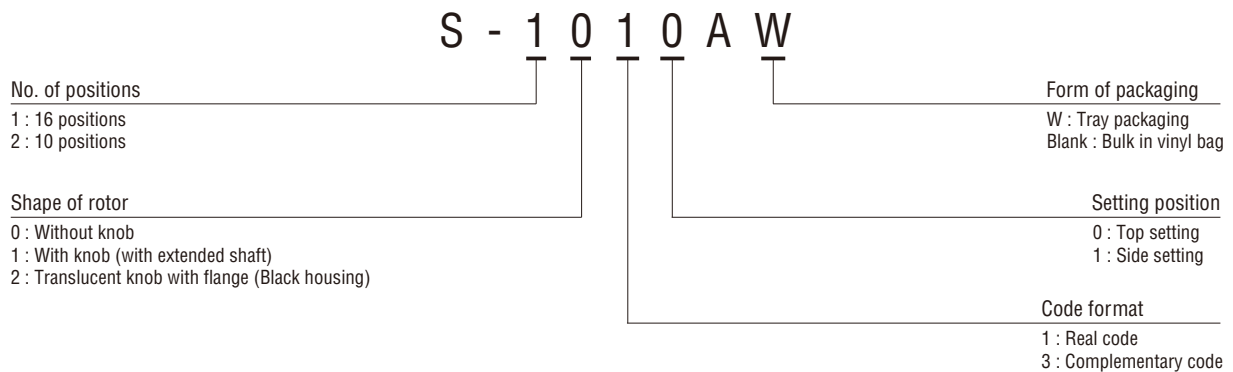
INTERNAL STRUCTURE S-1000A / 2000A series



	Part name	Material	Flammability
①	Housing	PBT (Polybutyleneterephthalate)	UL-94HB
②	Contact	Copper alloy, Gold-plated	—
③	Terminal pin		
④	Base	PBT (Polybutyleneterephthalate)	UL-94HB
⑤	“O” ring	Silicone rubber	
⑥	Insert rotor	Rotor : POM (polyoxymethylene) Pattern : Copper alloy, Gold-plated	UL-94V-2
⑦	Translucent knob with flange	PAR (Polyarylate) * S-12□□A/22□□A only	

CFCs, Halon, Carbon tetrachloride and designated bromic flame retardant PBBs and PBBs are not used in our products.

PART NUMBER DESIGNATION



✳ Please refer to the LIST OF PART NUMBERS when placing orders.

S-1000A/2000A ROTARY CODED SWITCHES

LIST OF PART NUMBERS

Shape	Form of packing	Binary coded decimal		Binary coded hexadecimal		Pieces in package	
		Real code	Complementary code	Real code	Complementary code		
Top setting	Without knob	Tray packaging	S-2010AW	S-2030AW	S-1010AW	S-1030AW	50 pcs./tray
		Vinyl pack	S-2010A	S-2030A	S-1010A	S-1030A	25 pcs./pack
	With knob	Tray packaging	S-2110AW	S-2130AW	S-1110AW	S-1130AW	50 pcs./tray
		Vinyl pack	S-2110A	S-2130A	S-1110A	S-1130A	25 pcs./pack
	Translucent knob with flange	Tray packaging	S-2210AW	S-2230AW	S-1210AW	S-1230AW	50 pcs./tray
		Vinyl pack	S-2210A	S-2230A	S-1210A	S-1230A	25 pcs./pack
Side setting	Without knob	Tray packaging	S-2011AW	S-2031AW	S-1011AW	S-1031AW	50 pcs./tray
		Vinyl pack	S-2011A	S-2031A	S-1011A	S-1031A	25 pcs./pack
	With knob	Tray packaging	S-2111AW	S-2131AW	S-1111AW	S-1131AW	50 pcs./tray
		Vinyl pack	S-2111A	S-2131A	S-1111A	S-1131A	25 pcs./pack
	Translucent knob with flange	Tray packaging	S-2211AW	S-2231AW	S-1211AW	S-1231AW	50 pcs./tray
		Vinyl pack	S-2211A	S-2231A	S-1211A	S-1231A	25 pcs./pack

* Verify the above part numbers when placing orders.
Tray version can be supplied only in tray units.

TERMINAL CONNECTION / P.C.B. THROUGH HOLE DIMENSIONS

(Unit: mm)

	Top setting	Side setting
Terminal pin layout (Bottom view)	<p>Real code</p> <p>Complementary code</p>	<p>Operating face of real code</p> <p>Operating face of complementary code</p>
P.C.B. dimensions (Bottom view)		

CODE FORMAT

No. of positions	S-1000A series (16 positions)																
	S-2000A series (10 positions)										A	B	C	D	E	F	
Position	0	1	2	3	4	5	6	7	8	9							
Code	Real code	8							●	●	●	●	●	●	●	●	
		4				●	●	●	●			●	●	●	●	●	
		2			●	●			●	●			●	●		●	●
	Complementary code	8	●	●	●	●	●	●	●								
		4	●	●	●	●				●	●	●	●				
		2	●	●			●	●		●	●			●	●		
	1		●						●	●	●					●	
	8	●	●	●	●	●	●	●									
	4	●	●	●	●				●	●	●	●					
	2	●	●			●	●		●	●			●	●			
	1	●		●					●	●	●				●		

● ... Contact closed

Specifications are subject to change without notice. Specifications in this catalog are for reference. The formal specification sheets will be submitted upon request.

S-1000A/2000A

ROTARY CODED SWITCHES

■ STANDARD SPECIFICATIONS

Circuit type	BCD (Real code, complementary code) BCH (Real code, complementary code)
Operating temperature range	-25 ~ 70 °C
Storage temperature range	
Sealing	Washable by "O" ring
Net weight	Approx. 0.87 g (S-1010A, S-1030A, S-2010A, S-2030A) Approx. 1.13 g (S-1011A, S-1031A, S-2011A, S-2031A) Approx. 0.97 g (S-1110A, S-1130A, S-2110A, S-2130A) Approx. 1.23 g (S-1111A, S-1131A, S-2111A, S-2131A) Approx. 1.02 g (S-1210A, S-1230A, S-2210A, S-2230A) Approx. 1.28 g (S-1211A, S-1231A, S-2211A, S-2231A)

■ ELECTRICAL CHARACTERISTICS

Contact rating	
Non-switching	DC50 V 100 mA
Switching	DC5 V 100 mA
Minimum	DC20 mV 1 μA
Contact resistance	100 mΩ maximum
Insulation resistance	1000 MΩ (DC100 V) minimum
Dielectric strength	AC300 V, 60 s

■ MECHANICAL CHARACTERISTICS

No. of positions	16 (S-1000A), 10 (S-2000A)
Adjustment torque	13 mN·m {133 gf·cm} minimum
Stepping angle	22.5° (S-1000A), 36° (S-2000A)
Terminal strength	15 N {1.53 kgf} minimum
Solderability	245 ± 3 °C, 2 ~ 3 s
Soldering heat	Flow : 260 ± 3 °C as the temperature in a pot of molten solder, immersion from head of terminal to backside of board, 5 ~ 6 s, two times maximum
	Manual soldering : 380 ± 10 °C, 3 ~ 4 s

{ } : Reference only

■ ENVIRONMENTAL CHARACTERISTICS

Vibration	Amplitude 1.5 mm or Acceleration 98 m/s ² , 10-500-10 Hz, 3 directions for 2 h each
Shock	490 m/s ² , 11 ms 6 directions for 3 times each
Load life	10000 steps DC5 V, 100 mA
Humidity (Steady state)	60 °C, Relative humidity 90 ~ 95 %, 1000 h
High temperature exposure	70 °C, 1000 h
Low temperature exposure	-25 °C, 96 h
Thermal shock	-25 (0.5 h) ~ 70 °C (0.5 h), 5 cycles

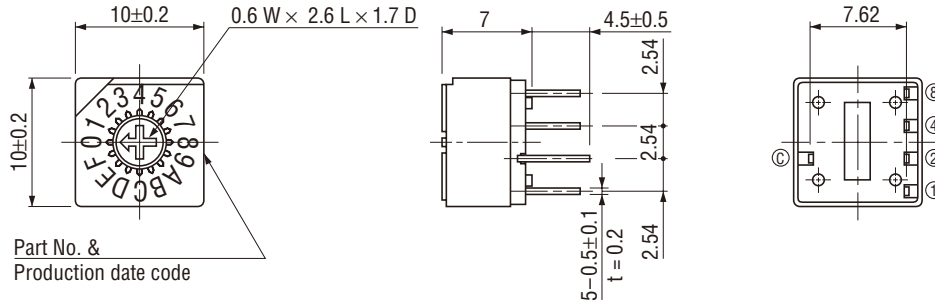
S-1000A/2000A ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

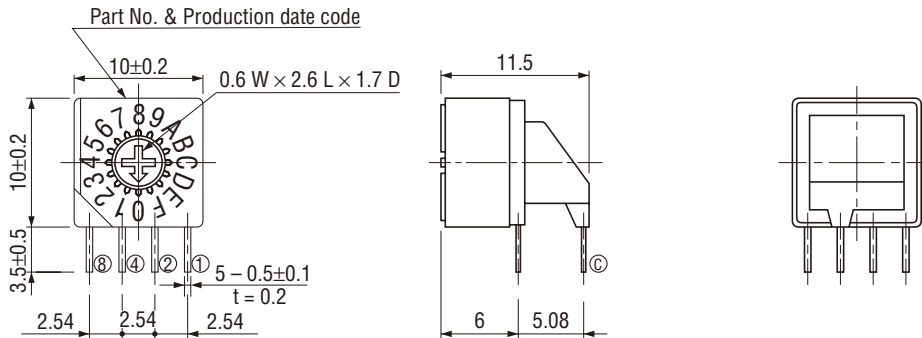
Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

(S-1000A series)

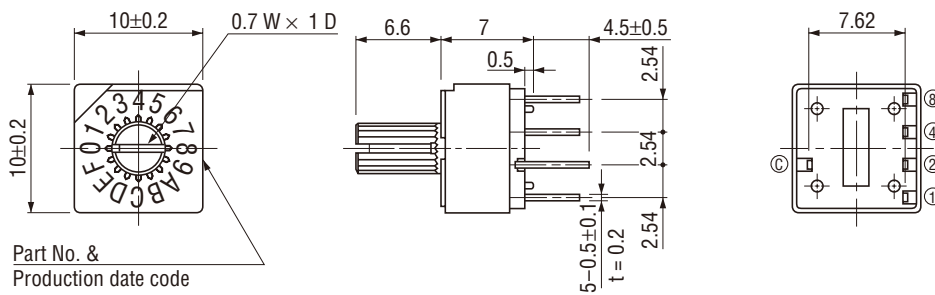
- S-1010A
 - S-1030A
- Top setting



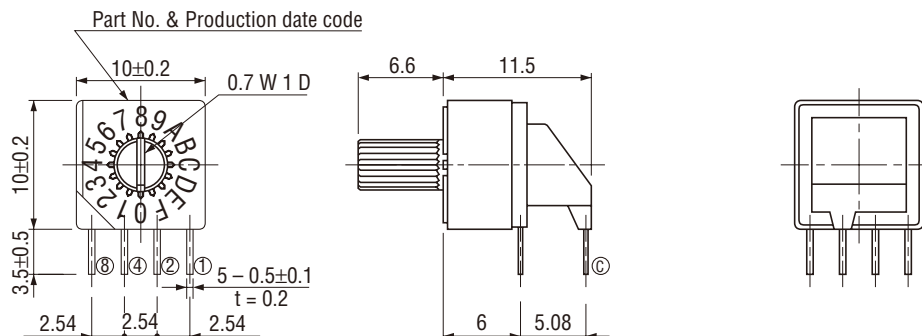
- S-1011A
 - S-1031A
- Side setting



- S-1110A
 - S-1130A
- Top setting



- S-1111A
 - S-1131A
- Side setting



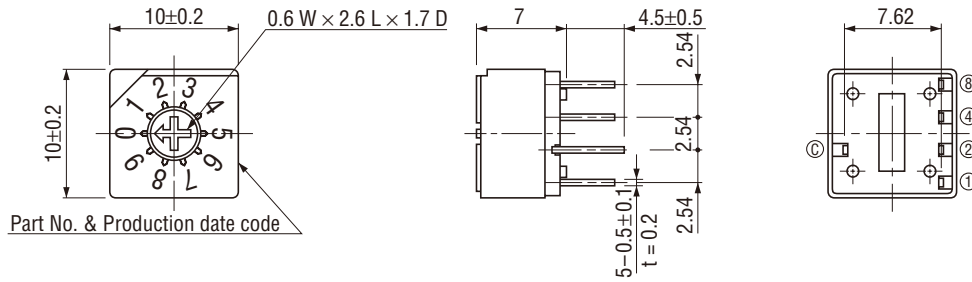
S-1000A/2000A ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

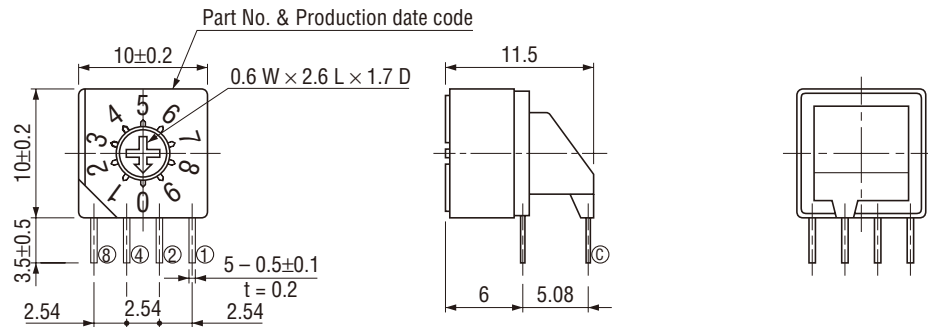
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(S-2000A series)

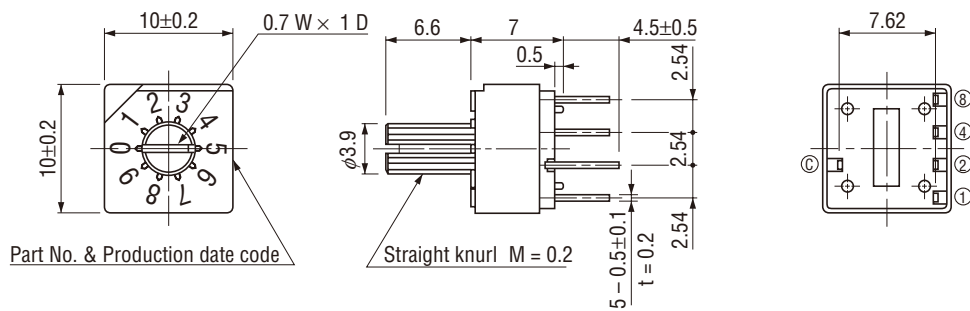
- S-2010A
 - S-2030A
- Top setting



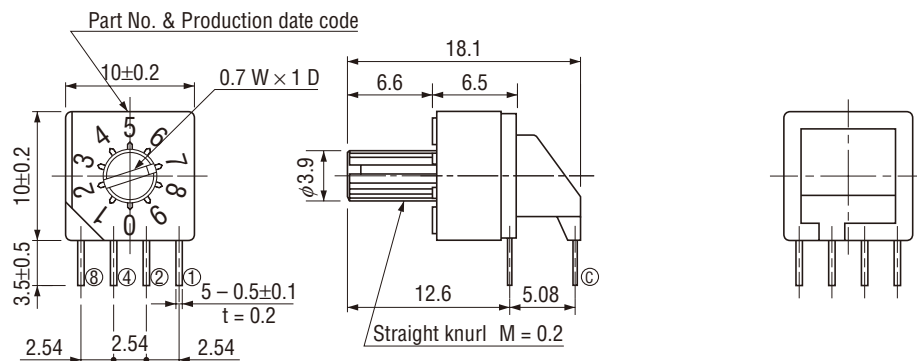
- S-2011A
 - S-2031A
- Side setting



- S-2110A
 - S-2130A
- Top setting



- S-2111A
 - S-2131A
- Side setting



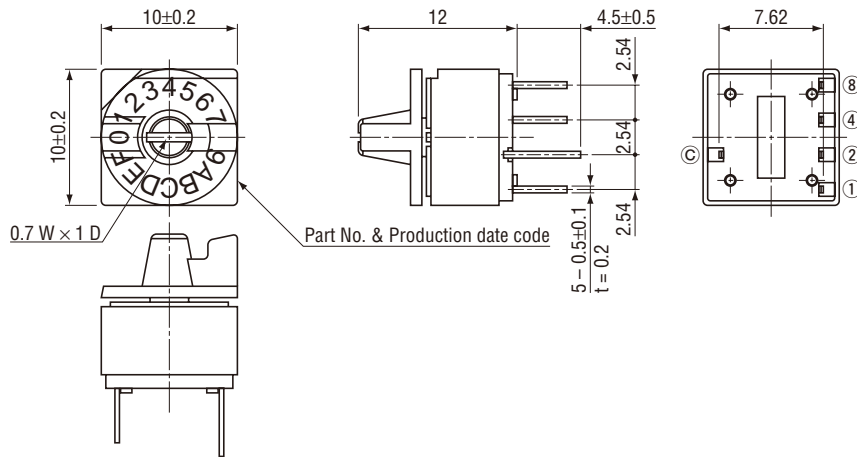
S-1000A/2000A ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

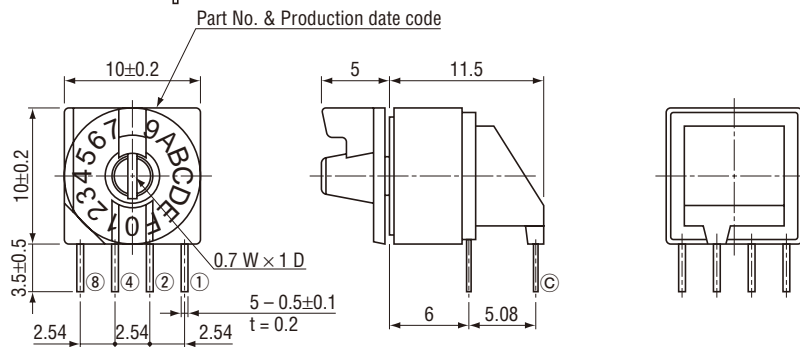
(S-1200A/2200A series)

Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

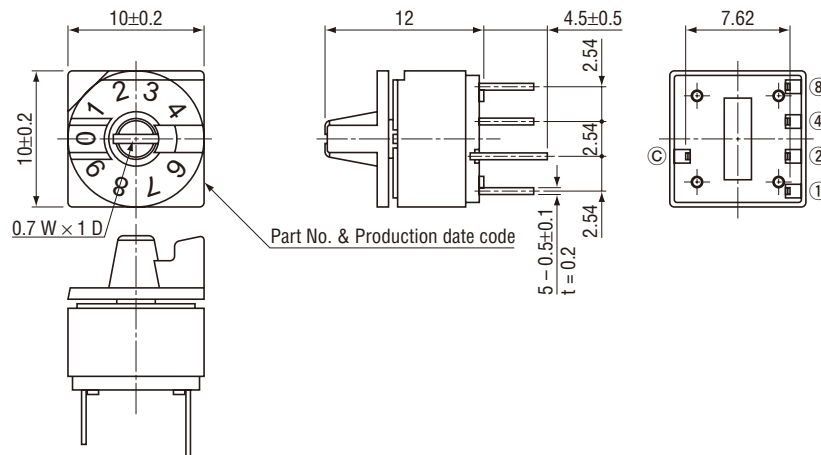
- S-1210A
 - S-1230A
- Top setting



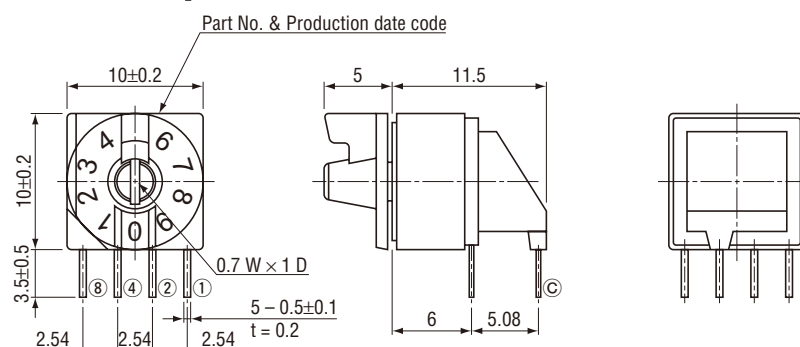
- S-1211A
 - S-1231A
- Side setting



- S-2210A
 - S-2230A
- Top setting



- S-2211A
 - S-2231A
- Side setting

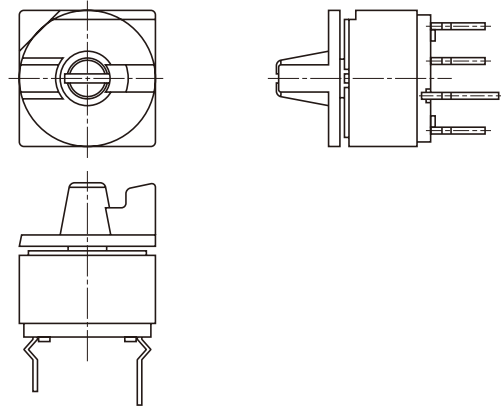
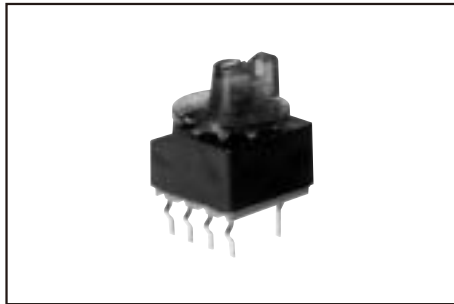


S-1000A/2000A ROTARY CODED SWITCHES

OUTLINE DIMENSIONS

Unless otherwise specified, tolerance: ± 0.3 (Unit: mm)

- Snap-in terminal pin with translucent knob with flange (Made to order basis)
S-1200AK and S-2200AK



PACKAGING SPECIFICATIONS

<Tray packaging specifications>

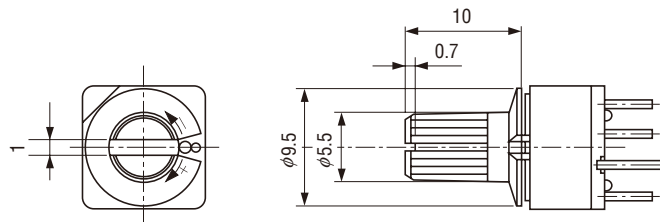
- Tray version is packaged in 50 pcs. per tray. Orders will be accepted for units of 50 pcs., i. e., 50, 100, 150 pcs. etc.
- Tray version is boxed with 10 trays.

<Vinyl pack specifications>

- The smallest unit of bulk in vinyl bag packaging is 10 pcs. per pack.
Orders will be accepted for unit of minimum 10 pcs., i.e., 10, 20, 30 pcs. , etc.
- Boxing of bulk in vinyl bags is performed with 25 pcs. (standard 50 pcs.) per box.

LARGE KNOB 'K1'

(Unit: mm)



The large knob is common to S-1000A, S-2000A, SA-5000 and SS-10 series.

Note : The switch with a large knob for manual adjustment is available as a semi standard item.