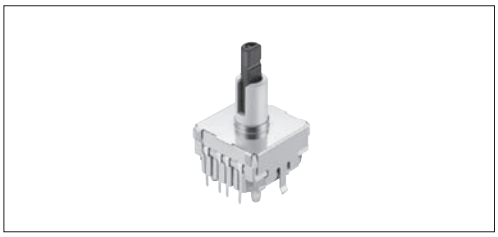
SDDE Rotary Type with Encoder

One switch for main power, mode selection and start



Ratings and Safety Standards

Items		Specifications
Rating (max.): Power switch		AC Switch: 1A/16A 250V~ DC Switch: 20mA 12V DC
Rating (max.): Encoder		0.1A 12V DC
Contact resistance (Encoder) (Initial / After operating life)		1Ω max.
Operating life (Load : as ratings)	Push-on switch	AC Switch: 10,000 cycles DC Switch: 10,000 cycles
	Encoder	30,000 cycles

Product Line

Type	Circuit arrangement	Travel (mm)	Operating force (N)	Number of detent	Rotational torque	Mounting method	Minimum order unit (pcs.)		Product No.
							Japan	Export	
Rotary	—	Push-on switch: 1.85mm Encoder: 360° rotation	Push-on switch: 4±1N	12	Encoder: 2.65±0.8N·cm	Snap-in	336	336	**SDDE1C0101**

Packing Specifications

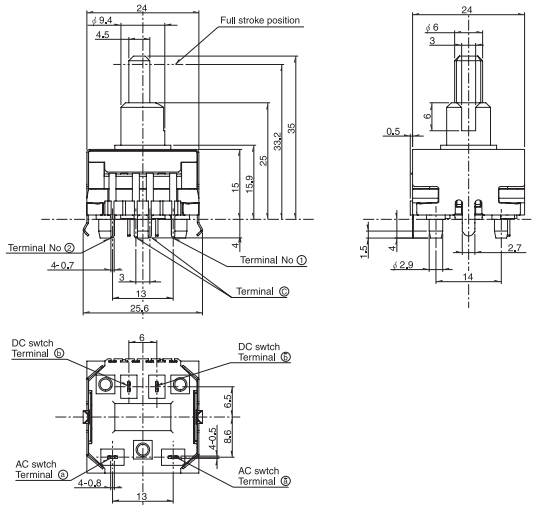
Tray

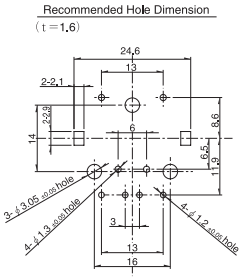
Number of packages (pcs.)		Export package measurements (mm)
1 case /Japan	1 case /export packing	
336	336	411×311×217

Dimensions

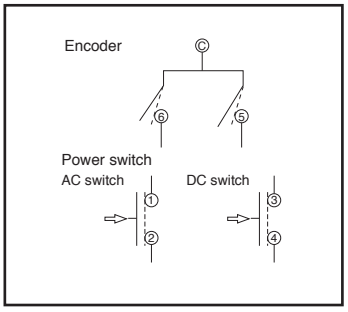
Unit:mm

Style	PC board mounting hole dimensions

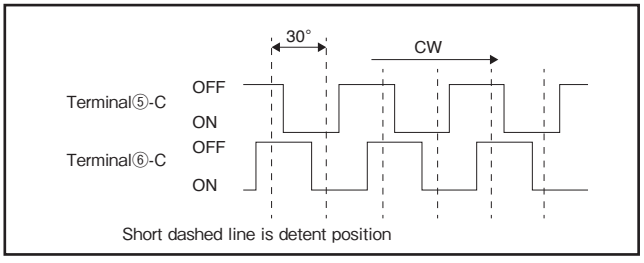




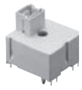
Circuit Diagram



Output Wave



Refer to P.176 for soldering conditions.

Type	Rocker	Slide	Rotary	
Series	**SDDJF1A**	**SDKP**	**SDKZ**	**SDDE**
Photo				
Rating	8A / 128A 250V~ 10 (6) / 250~	5RA 250V AC	PS: 16 (6) A 250V AC 14 (6) A 250V AC DC: 0.1A 12V DC	AC Switch: 1A / 16A 250V ~ DC Switch: 20mA 12V DC Encoders: 0.1A 12V DC
Operating life	10,000cycles	100cycles	10,000cycles (Power) 30,000cycles (Encoder)	AC Switch: 10,000 cycles DC Switch: 10,000 cycles
Operating life (conditions)	10A 250V AC	Without load	16A 250V AC (Power) 0.1A 12V DC (Encoder)	Encoder 30,000 cycles
Travel (mm)	4.6	6	Endless	Push Switches: 1.85mm Encoders: 360° (360° Rotation)
Features	—	—	With Encoders circuit	AC Switch, DC Switch, With Encoder
Operating temperature range	−10℃ to +55℃	−10℃ to +60℃	−10℃ to +70℃	0℃ to +85℃
Automotive use	○	—	—	—
Life cycle (availability)	★3	★3	★3	★3
Electrical performance: Contact resistance	100mΩ max.		100mΩ max. (Power) 1Ω max. (Encoder)	AC Switch: 100mΩ max. DC Switch: 500mΩ max. Encoder: 1Ω max.
Electrical performance: Insulation resistance	500MΩ min. 500V DC		500MΩ min. 500V DC (Power) 100MΩ min. 100V DC (Encoder)	AC Switch: 100MΩ min. 500V DC DC Switch: 100MΩ min. 100V DC Encoder: 100MΩ min. 100V DC
Electrical performance: Voltage proof	2,000V AC for 1minute		2,000V AC for 1minute (Power) 100V AC for 1minute (Encoder)	AC Switch: 2,000V AC for 1 minute DC Switch: 100V AC for 1 minute Encoder: 100V AC for 1 minute
Mechanical performance: Terminal strength	50N for 1minute	10N for 1minute	20N (Power) 5N (Encoder)	AC Switch: 5N for 1 minute DC Switch: 5N for 30s Encoder: 5N for 1 minute
Mechanical performance: Actuator strength – Operating direction	25N	50N	Encoder: 100V	100N
Mechanical performance: Actuator strength – Perpendicular direction	25N	50N	30N	30N (Retract direction)
Environmental performance: Cold	−20℃ 96h		−40℃ 240h	
Environmental performance: Dry heat	85℃ 96h		85℃ 240h	
Environmental performance: Damp heat	40℃, 90 to 95%RH 96h		40℃, 90 to 95%RH 240h	
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Power Switches Cautions 176
Power Switches Safety Standard 176

Note

○ Indicates applicability to some products in the series.

Power Switches Soldering Conditions

Reference for Hand Soldering

Series	Soldering temperature	Soldering time
SDDJE, SDDJF, SDKP, SDDJF1A, SDKZ, SDDE	350±10℃	3+1/0s
SDKR	300±10℃	3±0.5s

Reference for Dip Soldering

(For PC board terminal types and SDDJF right-angle terminal types)

Series	Dip soldering	
	Soldering temperature	Duration of immersion
SDKR, SDDJE, SDDJF, SDKP, SDKZ, SDDE	260±5℃	10±1s

Power Switches Cautions

1. The primary power supply switching is subject to the safety regulations, and the provisions differ by each destination. Consult with us for non-standard use cases.
2. An unstable contact may occur if the switch current is lower than 0.5A. For this case, consult with us.
3. These power switches were produced for alternating current. For direct current, consult with us.
4. Appling load to terminals during soldering under certain conditions may cause deformation and electrical property degradation.
5. Avoid use of water-soluble soldering flux, since it may corrode the switches.
6. When soldering twice, wait until the first soldered portion cools to normal temperature. Continuous heating will deform the external portions, loosen or dislodge terminals, or may deteriorate their electrical characteristics.
7. Before soldering switches with locking mechanism, release the locks. If they are soldered without releasing the locks, the soldering heat may deform the locking mechanism.
8. Be sure to release the locks before removing the knobs. Otherwise, the locking mechanism may be broken.
9. Be sure to use the switch with forced travel positioned as close to the total travel as possible.
10. Tighten the mounting screws by applying the specified torque. Tightening with a larger torque than the specified will result in malfunction or breakage of screws.
11. Corrosive gas if generated by peripheral parts of a set, malfunction such as imperfect contact may occur. Thorough investigation shall be required beforehand.
12. Storage

    Store the products as delivered at normal temperature and humidity, out of direct sunlight and away from corrosive gases. Use them as soon as possible and no later than six months after delivery. Once the seal is broken, use them as soon as possible.

Power Switches Safety Standards

1. Safety Standards Outline

Safety standards are established by a country or an organization representing it to protect general users from electrical shock and fire hazards. It establishes standards for electrical devices and components. For electrical equipment manufacturers, utilizing switches that have been safety-approved ensures the safety of the switch. The use of a safety-approved switch also simplifies at least one part of the process of obtaining certification by safety testing.

2. Major Safety Standards

(1) Electrical Appliance and Material Safety Law

The conventional [Electrical Appliance and Material Control Law] has changed to [Electrical Appliance and Material Safety Law] and has been enforced since April 1, 2001. Electrical appliances are categorized into special electric appliances and parts (formerly Class A) and Electrical appliances other than the special electric appliances (formerly Class B). Special electric appliances are required to receive goodness of fit test at a certified test agency and to store the certificate. Also, penal provisions have been reinforced.

(2) UL (Underwriters Laboratories Inc.)

Underwriters Laboratories Inc. (UL) is the American safety approving organization. Its purpose is to ensure consumer safety and protect them from fire hazards. State law requires that equipment to be exported to the United States utilize UL approved power switches or power switches meeting UL standards and capable of passing UL tests.