

RKJXL

8-directional Stick Switch (with Center-push Function)

Low-profile 6.4mm height contributes to flexibility in set design



Typical Specifications



| Items | | Specifications |
|--------------------------------|------------------------|-------------------------|
| Rating (max.) (Resistive load) | | 10mA 5V DC |
| Contact resistance | 8-direction | 500mΩ max. |
| | Center-push | |
| Operating angle (8-direction) | | Each direction 12° ± 3° |
| Travel (Center-push) | | 0.2±0.1mm |
| Operating life | Total with 8-direction | 100,000 cycles |
| | Center-push | 100,000 cycles |

Product Line

| Product No. | Maximum resolution | Operating force | | Minimum order unit (pcs.) | |
|---------------------|--------------------|-----------------|-------------|---------------------------|--------|
| | | Direction | Center-push | Japan | Export |
| RKJXL100401V | 8 | 10±7mN·m | 4.5±1N | 800 | 1,600 |

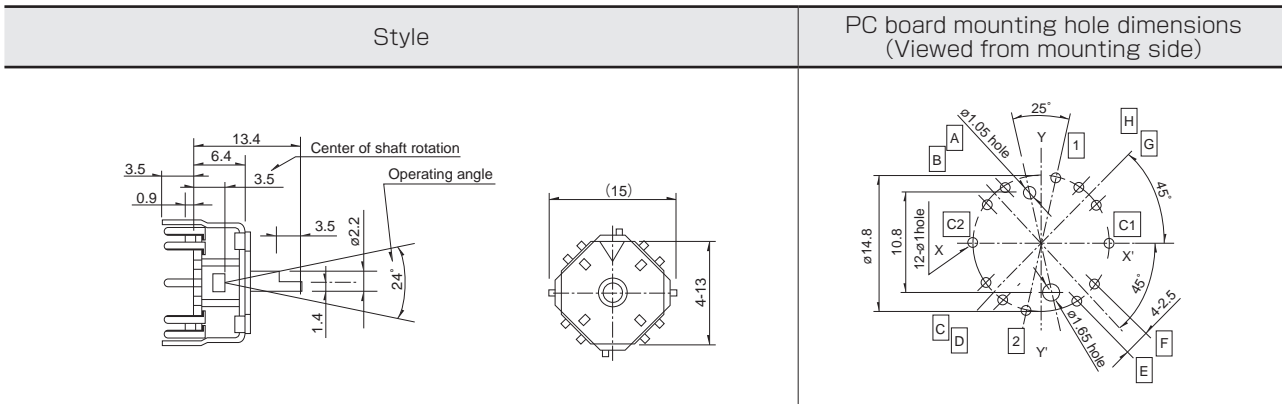
Packing Specifications

Tray

| Number of packages (pcs.) | | Export package measurements (mm) |
|---------------------------|-------------------------|----------------------------------|
| 1 case / Japan | 1 case / export packing | |
| 800 | 1,600 | 532×379×167 |

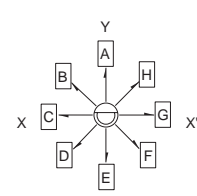
Dimensions

Unit:mm



Output Relation Chart Between Lever Position and ON Position.

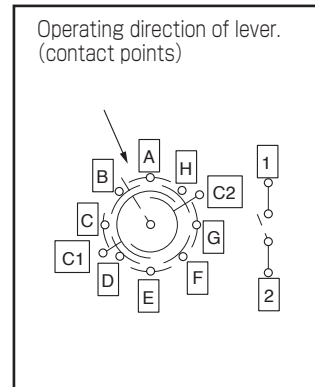
| Terminal The direction of the operation | A | B | C | D | E | F | G | H | C1 | C2 | 1 | 2 |
|--------------------------------------------|----|----|----|----|----|----|----|----|----|----|----|----|
| A | ON | | | | | | | | ON | | | |
| B | | ON | | | | | | | ON | | | |
| C | | | ON | | | | | | ON | | | |
| D | | | | ON | | | | | ON | | | |
| E | | | | | ON | | | | | ON | | |
| F | | | | | | ON | | | | ON | | |
| G | | | | | | | ON | | | ON | | |
| H | | | | | | | | ON | | ON | | |
| Center Push | | | | | | | | | | | ON | ON |











Operating direction of lever.

※ Shorting areas exist between adjacent terminals
※ Between H and A, and D and E, both C1 and C2 are connected

Circuit Diagram



| Type | | Switch type | | | |
|-------------------------------------------------|-----------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Series | | RKJXT1F | RKJXM | RKJXW | RKJXL |
| Photo | |  |  |  |  |
| Dimensions (mm) | W | 17 | 11 | 36 | 13 |
| | D | | | 48.5 | |
| | H | 10.5 | 6.6 | 26.5 | 6.4 |
| Shaft material | | Metal | | | |
| Directional resolution | | 4-direction | 8-direction | | |
| Directional operating feeling (tactile feeling) | | With | | | Without |
| Lever return mechanism | | With | | | |
| Center-push switch | | With | | | |
| Encoder | | With | Without | With | Without |
| Operating temperature range | | -40°C to +85°C | | | -30°C to +70°C |
| Operating life | Directional operation | Total with 4-direction 50,000 cycles | Total with 8-direction 100,000 cycles | 30,000 cycles for each direction | 8 directions total: 100,000 cycles |
| | Center-push | | | 30,000 cycles | 100,000 cycles |
| | Encoder | 15,000 cycles | — | 30,000 cycles | — |
| Automotive use | | ● | ● | ● | ● |
| Life cycle (availability) | |  |  |  |  |
| Rating (max.) (Resistive load) | | 10mA 5V DC | | | |
| Electrical performance | Output voltage | — | — | — | — |
| | Encoder resolution | 15pulses/360° | — | 15pulses/360° | — |
| | Insulation resistance | 100MQ min. 250V DC | | | |
| | Voltage proof | 250V AC for 1min. | | 360V AC for 2s | 300V AC for 1min. or 360V AC for 2s |
| Mechanical performance | Directional operating force | 40±25mN·m | Direction A, B, C, D 30±20mN·m | 2.5±1.5N | 10±7mN·m |
| | | | Direction AB, BC, CD, DA 25±20mN·m | | |
| | Push operating force | 5±2N | 3±1.5N | | 4.5±1N |
| | Encoder detent torque | 15±8mN·m | — | 30±20mN·m | — |
| | Terminal strength | 5N for 1min. | | | |
| Actuator strength | Push / pull directions | 100N (Push/Pull) | 100N (Push), 50N (Pull) | 100N (Push) | 100N (Push), 50N (Pull) |
| | Operating direction | 0.4N·m | 0.3N·m | 50N | 100N |
| Environmental performance | Cold | -40°C 500h | | | |
| | Dry heat | 85°C 500h | | | |
| | Damp heat | 60°C, 90 to 95%RH 500h | | | |
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Multi Control Devices

Variable Resistor Type

Switch Type

| | |
|--------------------------------------------------------|-----|
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| Switch Type Multi Control Devices Cautions | 413 |

Note

● Indicates applicability to all products in the series.

Switch Type Multi Control Devices / Soldering Conditions

Reference for Manual Soldering

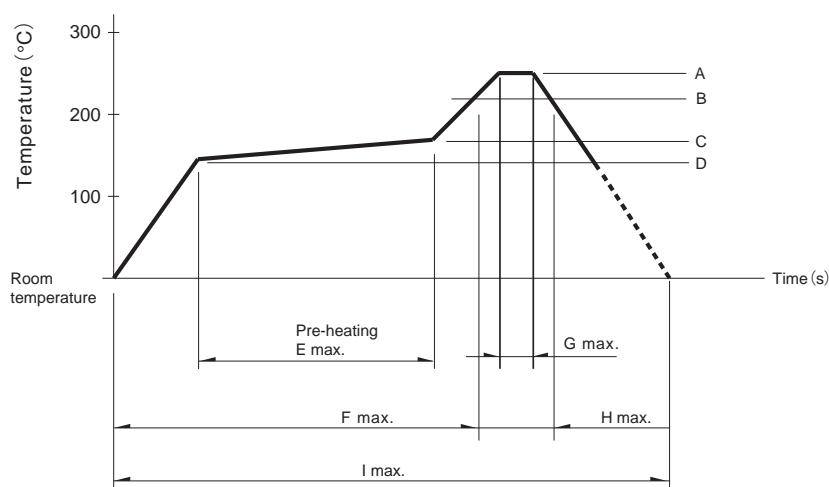
| Series | Tip temperature | Soldering time | No. of solders |
|-------------------------------------------------------|-----------------|----------------|----------------|
| RKJXT1F, RKJXM, RKJXL, SLLB, SLLB5, SRBE, SKRH | 350±5°C | 3s max. | 1 time |

Reference for Dip Soldering

| Series | Preheating | | Dip soldering | | No. of solders |
|-----------------------|-------------------------------|--------------|-----------------------|----------------|----------------|
| | Soldering surface temperature | Heating time | Soldering temperature | Soldering time | |
| RKJXT1F, RKJXM | 100°C max. | 2 min. max. | 260±5°C | 5±1s | 2 time max. |
| RKJXL | 120°C max. | 70s max. | 260°C max. | 6s max. | 2 time max. |

Example of Reflow Soldering Condition

1. Heating method: Double heating method with infrared heater.
2. Temperature measurement: Thermocouple ϕ 0.1 to 0.2 CA (K) or CC (T) at soldering portion (copper foil surface).
A heat resisting tape should be used for fixed measurement.
3. Temperature profile



| Series | A | B | C | D | E | F | G | H | I | No. of reflows |
|-------------------|-------|-------|-------|-------|--------|--------|----|-----|----------|----------------|
| SLLB5 | 250°C | 230°C | 150°C | 150°C | — | 2 min. | — | 30s | — | 1 time |
| SLLB, SRBE | 260°C | 230°C | 180°C | 150°C | 2 min. | — | — | 40s | — | 1 time |
| SKRH | 260°C | 230°C | 180°C | 150°C | 2 min. | — | 3s | 40s | 3-4 min. | 2 times |

Notes

1. The above temperature shall be measured on the mounting surface of a PC board. There are cases where the PC board's temperature greatly differs from that of the switch, depending on the material, size thickness of PC boards and others. The above-stated conditions shall also apply to switch surface temperatures.
2. Soldering conditions differ depending on reflow soldering machines. Prior verification of soldering condition is highly recommended.

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