

# D4NS-SK/D4JL-SK

## D4NS/D4JL-mounting Slide Key

- Safety-door switch attachments fit doors on aluminum frames as small as 20 mm<sup>2</sup> and frames that are large enough to enclose robotics
- Shortens the lead time for safety-door switch mounting design
- Enables applications in compliance with ANSI/RIA U.S. robot standards (excluding the D4NS-SK01)
- A Rapid Delivery Product: Select models are available for shipment today or within 3 to 5 days



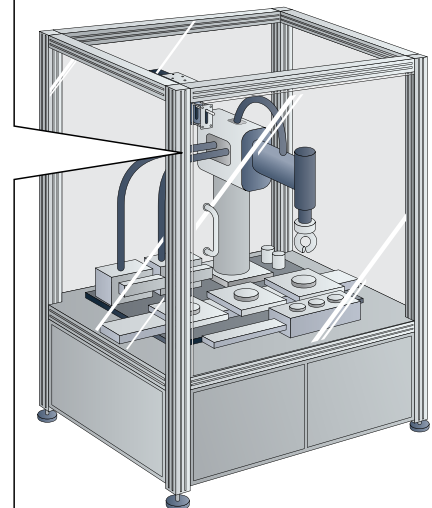
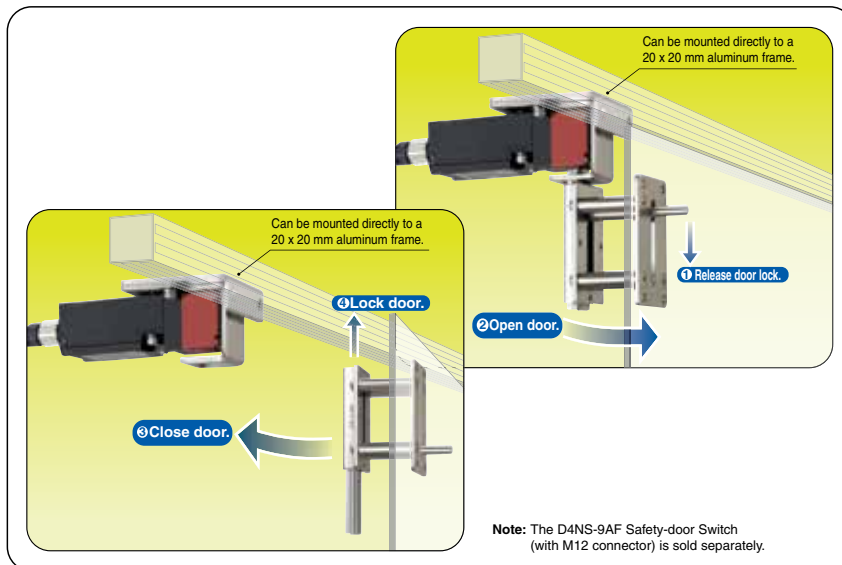
Note: Safety-door switches are sold separately.

## Configuration & Features

### D4NS-SK01



### Mounts directly to 20 x 20 mm aluminum frames



Note: Assess risk before implementing safety measures for the equipment.

## Configuration & Features (continued)

### D4NS-SK30



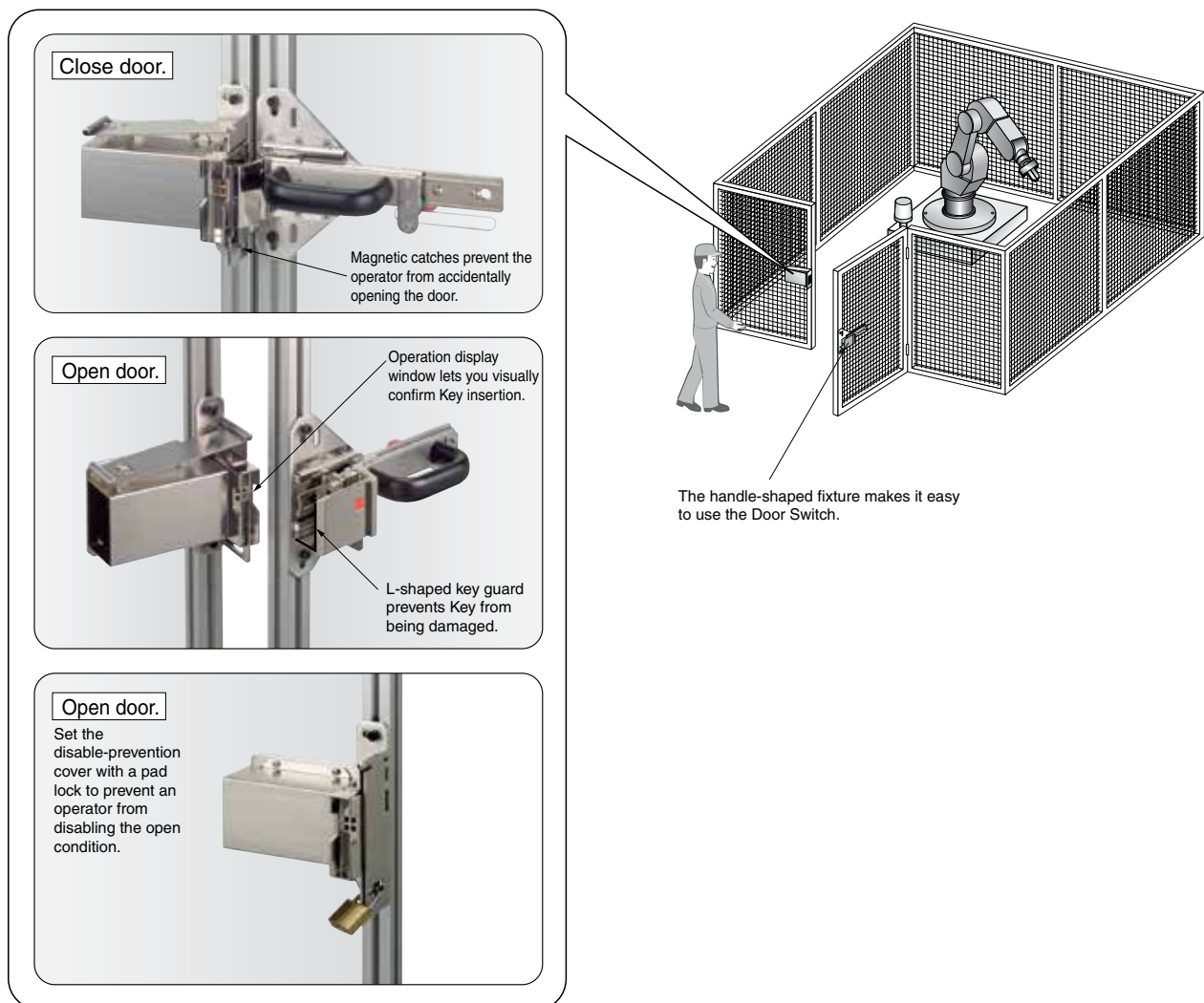
- The L-shaped key guard prevents the Key from being damaged, and helps to guide the Key in smoothly.
- When the door is opened, the key hole can be covered by the disable-prevention cover, and a padlock can be attached. The operator's safety is then assured because the door cannot be closed until the padlock is removed.

ANSI/RIA R15.06-1999 (R2009) 8.4 Protection of personnel within the safeguarded space

Personnel required to perform tasks within the safeguarded space shall be protected by:

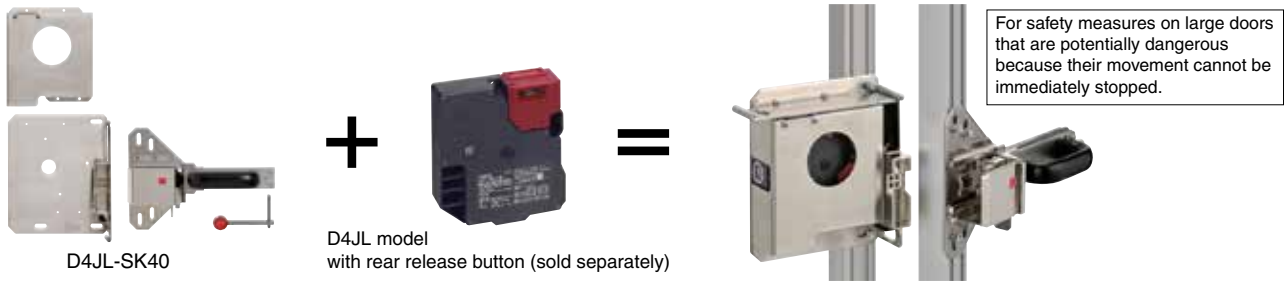
- Preventing the re-initiation of any motion or hazardous process while personnel are within the safeguarded space, for example locking a gate open;

- The operation display window lets you visually confirm that the Key has been inserted.
- Magnetic catches prevent the door from opening if the operator accidentally bumps into it.



## Configuration & Features (continued)

### D4JL-SK40

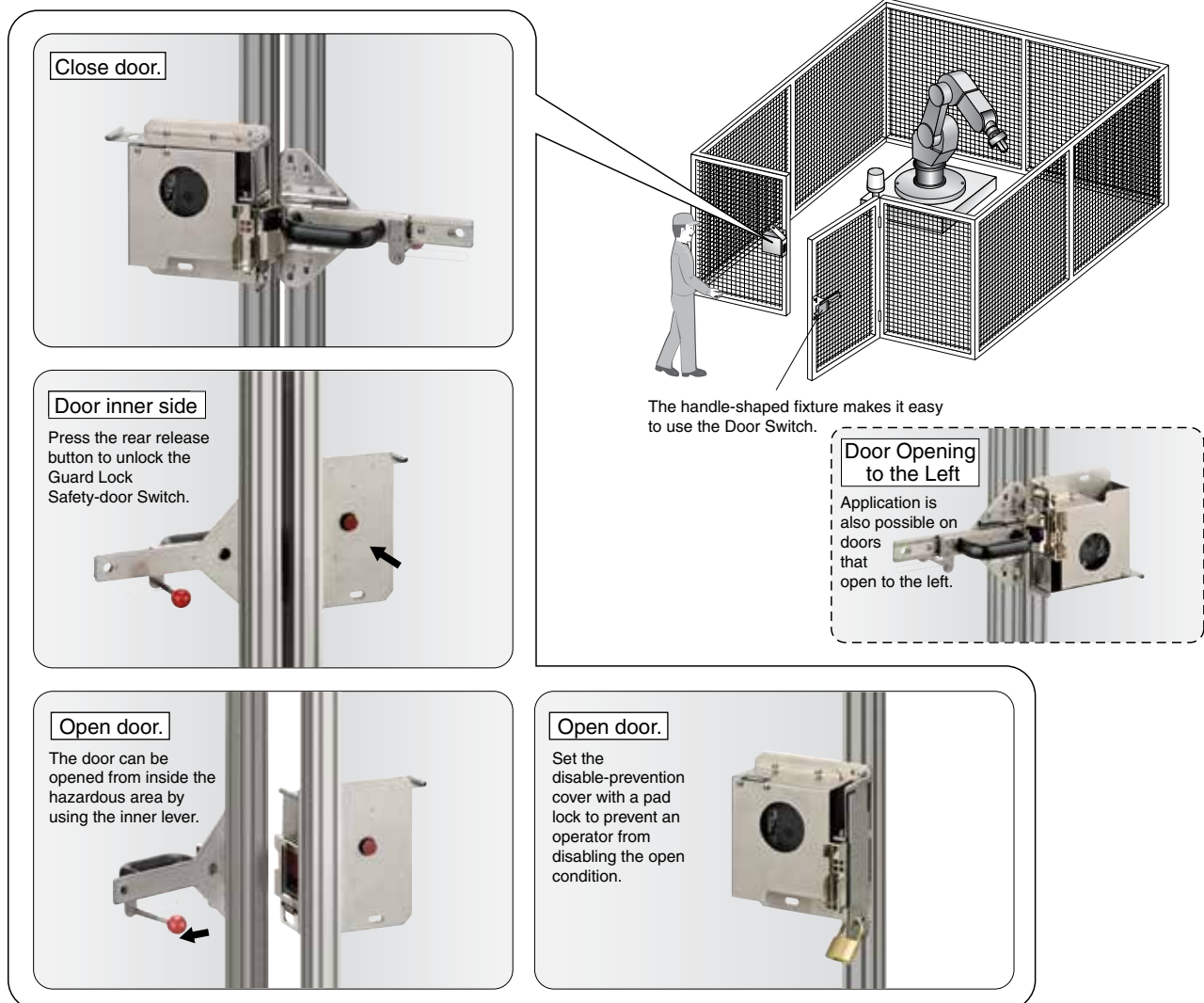


- Can be combined with the D4JL Guard Lock Safety-door Switch to prevent locked doors from being too easily opened.
- Even if an operator were to be trapped inside a hazardous area, the D4JL model with rear release button would allow the operator to unlock the door from the inside with the lever.

ANSI/RIA R15.06-1999 (R2009) 11.2.2 Interlocking portion

b) The interlocking portion of the interlocked barrier shall be installed, applied, and maintained so that:

- 8) Be capable of being easily unlocked from the inside of the safeguarded space with or without power available, when the possibility of full body access exists;

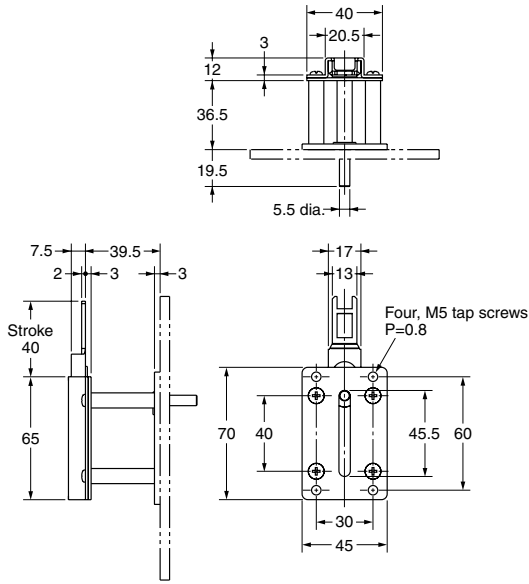


Dimensions

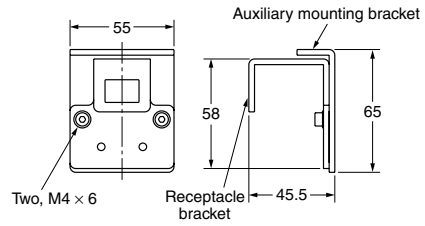
(mm)

D4NS-SK01

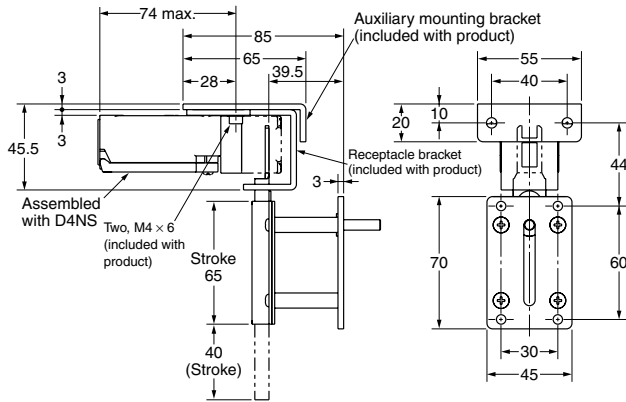
Slide Key



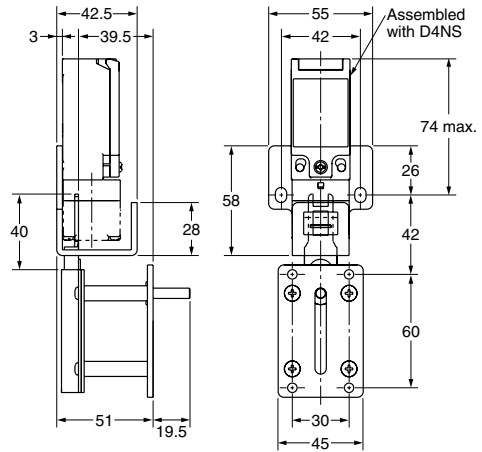
Auxiliary Mounting Bracket and Receptacle Bracket



Switch Mounting Pattern 1



Switch Mounting Pattern 2

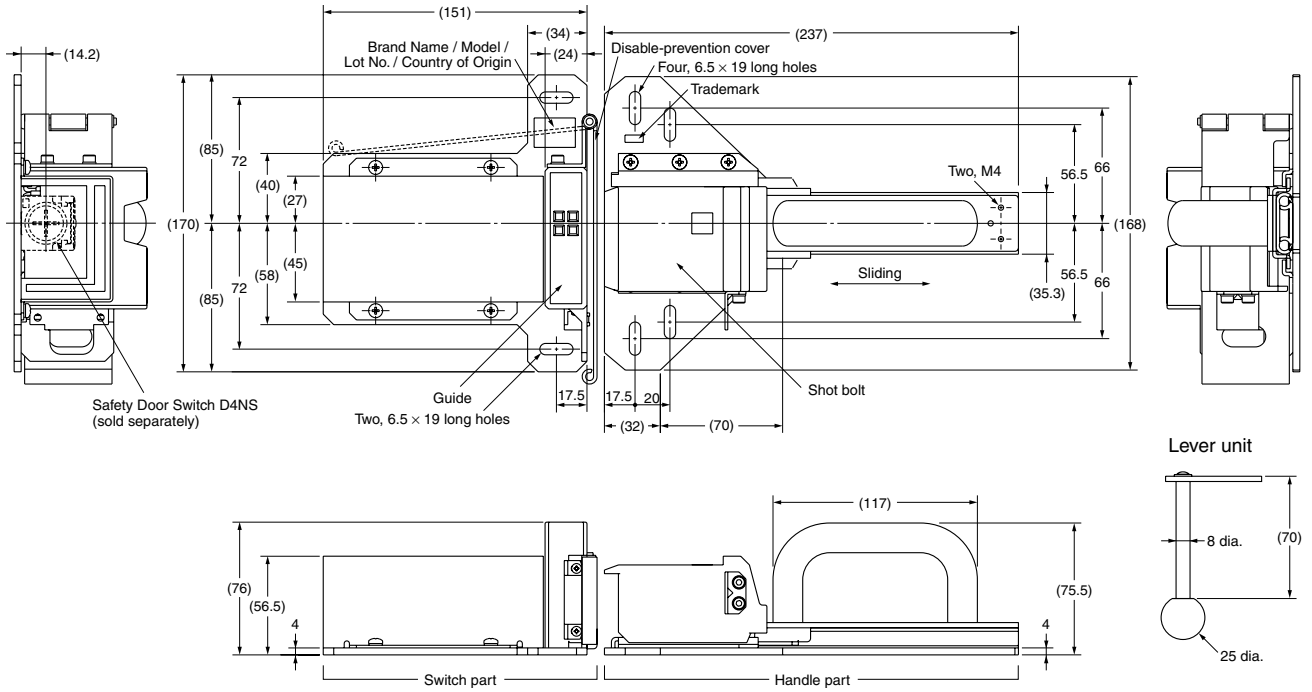


Dimensions (continued)

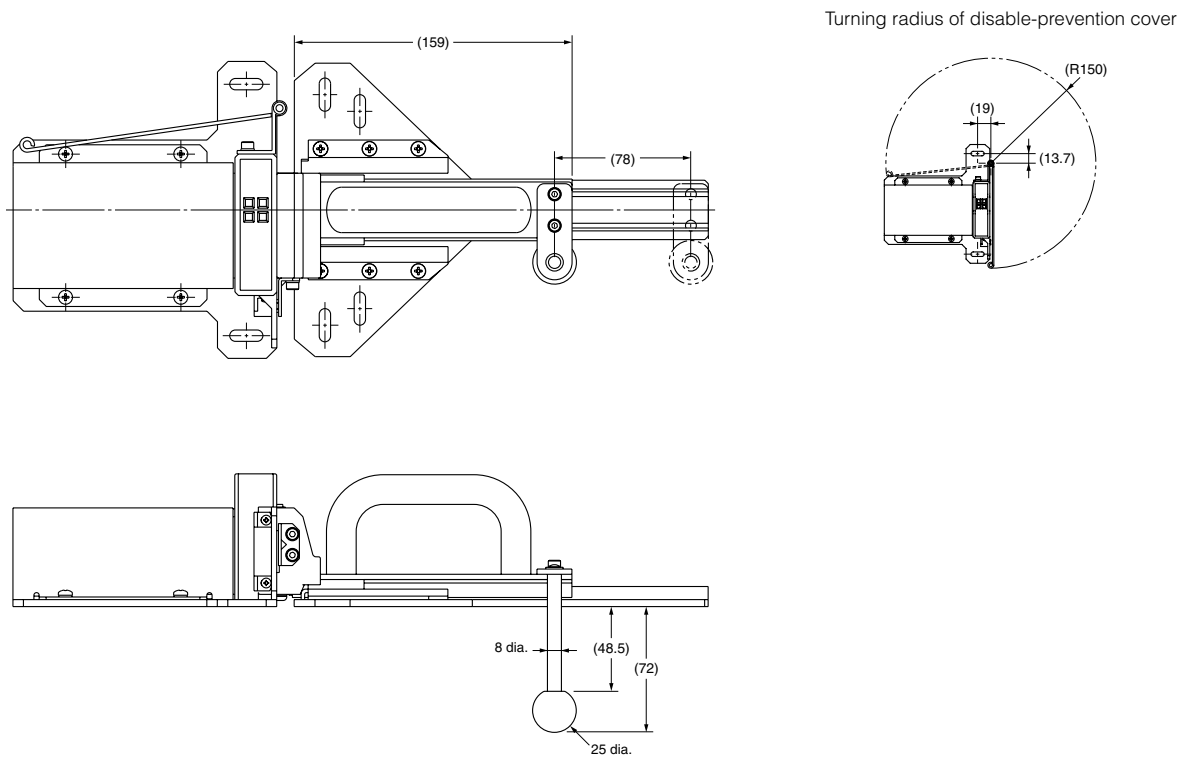
(mm)

D4NS-SK30

Open Door



Closed Door

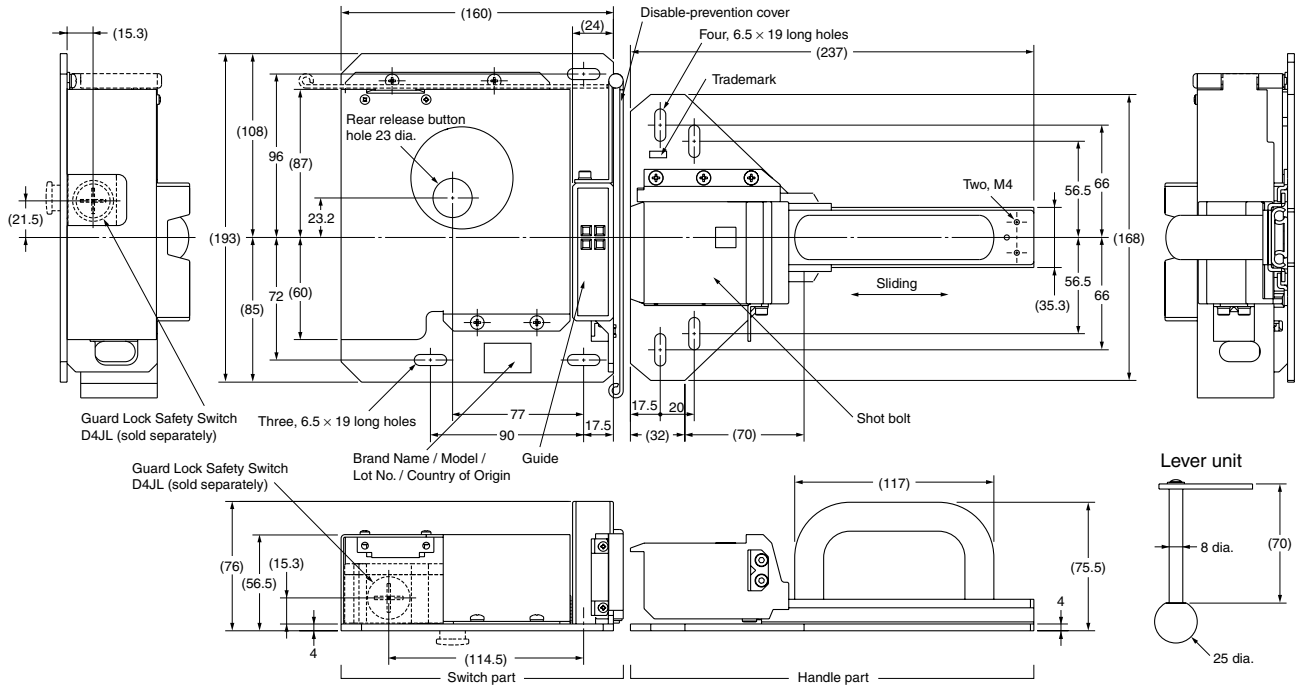


Dimensions (continued)

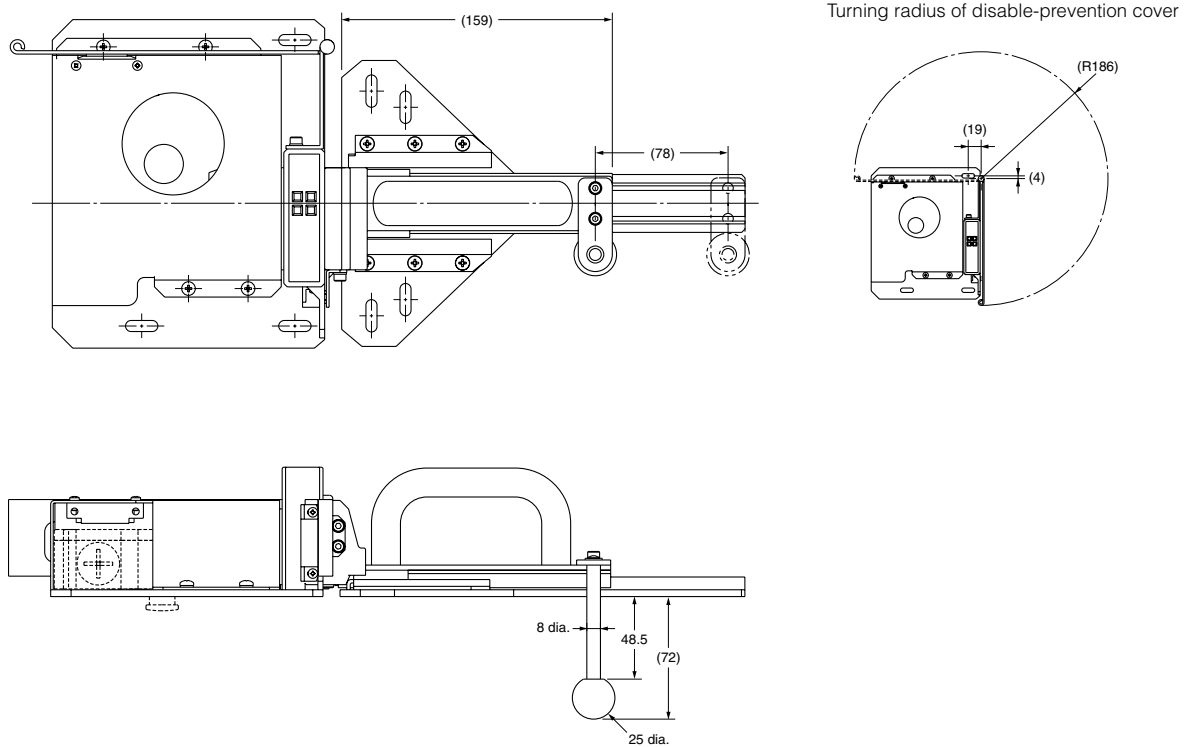
(mm)

D4JL-SK40

Open Door



Closed Door

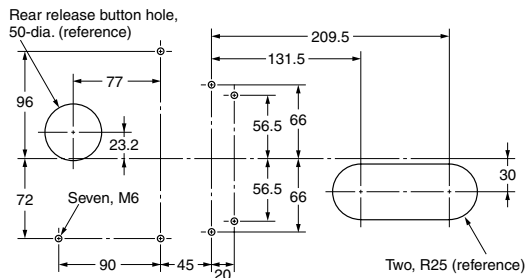


Dimensions (continued)

(mm)

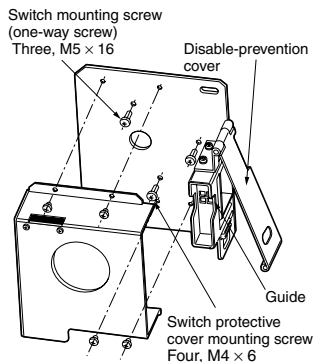
Mounting Holes

D4JL-SK40

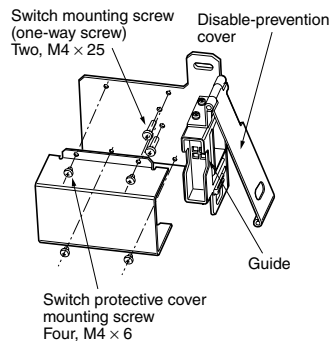


Assembly

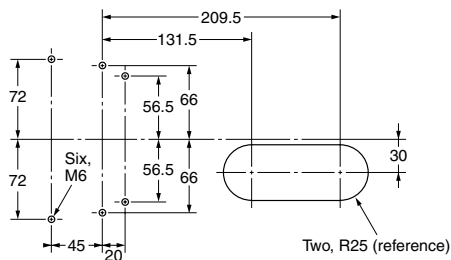
Switch Part D4JL-SK40



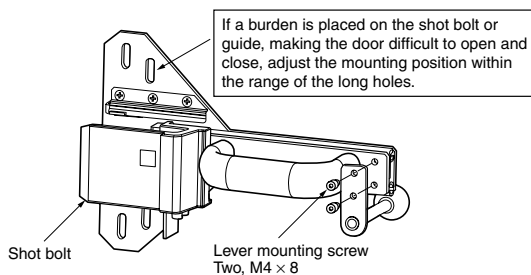
D4NS-SK30



D4NS-SK30



Handle Part D4JL-SK40/D4NS-SK30



Ordering

Appearance	Specifications	Contents	Model	Applicable Door Switch
	Weight: 422 g Mechanical durability: 20,000 operations min.	Slide Key: 1 Auxiliary mounting bracket: 1 Receptacle bracket: 1	D4NS-SK01	D4NS 1-conduit type
	Weight: 2,800 g Mechanical durability: 20,000 operations min.	Slide Key: 1 D4NS mounting tool: 1 Inner lever: 1 Inner lever mounting screws: 2 Door Switch mounting one-way screws: 2 Switch protective cover: 1 Switch protective cover screws: 4 Disable-prevention cover (already mounted on Slide Key): 1	D4NS-SK30	D4NS 1-conduit type
	Weight: 3,400 g Mechanical durability: 20,000 operations min.	Slide Key: 1 D4JL mounting tool: 1 Inner lever: 1 Inner lever mounting screws: 2 Door Switch mounting one-way screws: 3 Switch protective cover: 1 Switch protective cover screws: 4 Disable-prevention cover (already mounted on Slide Key): 1	D4JL-SK40	D4JL-□□F□-□6 rear release button type

# Precautions

## CAUTION

Incorrect operation may cause injury. Also, the product is designed to be mounted so that it slides horizontally. Do not mount the product in a vertically sliding configuration.



## Precautions for Safe Use

- Do not drop the Switch. Doing so may prevent the Switch from functioning to full capacity.
- Mount the Switch securely to prevent it from falling. Otherwise, injuries may occur.
- Do not attempt to disassemble or modify the Switch. Doing so may cause the Switch to malfunction.
- Make sure that the gap between the short bolt and guide is ( $\pm 3$  mm). Otherwise, excessive wear or damage may cause malfunction.
- To ensure safety, do not operate the Switch with anything other than a Slide Key.
- Be careful to avoid pinching your hand when operating the Switch.
- Be sure to mount the Switch protective cover. Otherwise, your hand may be injured by being pinched between the short bolt and Switch when closing the door with your hand on the Switch.
- When opening the door, be sure to lower the disable-prevention cover into position, attach a padlock, or take other steps to prevent other people from operating the Switch.
- The durability of the Switch is greatly influenced by the switching conditions. Always test the Switch under actual working conditions before application and use it in a switching circuit for which there are no problems with performance.
- The user must not maintain or repair equipment incorporating the Switch. Contact the manufacturer of the equipment for any maintenance or repairs required.
- Refer to the D4JL Guard Lock Safety-door Switch, D4NS Safety-door Switch Datasheet, Instruction Sheet for details and handling information on the Switch.

## Precautions for Correct Use

- Insert the slide handle until the red operation indicator is completely displayed in the operation display window.



Normal



Insufficient insertion

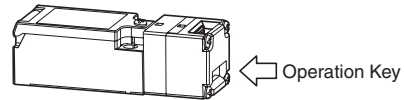
Operation display window

- Loose screws may result in malfunction. Use washers and tighten the screws to the specified torques. Also, when mounting the Switch to a door for disable-prevention purposes, purchase and use tamper-resistant screws.

## Tightening Torque

<b>Slide Key mounting screw (M6)</b>	6.0 to 7.0 N·m	
<b>Switch mounting screw (included with product)</b>	<b>For D4JL</b>	3.2 to 3.8 N·m
	<b>For D4NS</b>	0.5 to 0.7 N·m
<b>Switch protective cover mounting screw (included with product)</b>	1.2 to 1.4 N·m	
<b>Lever mounting screw (included with product)</b>	1.2 to 1.4 N·m	

- Use the D4NS-SK30 only with the D4NS Safety-door Switch head in the direction shown below.



## Technical Specifications

	D4JL-SK40	D4NS-SK30
<b>Ambient operating temperature</b>	-10 to 55°C (with no icing)	
<b>Ambient operating humidity</b>	95% max.	
<b>Mechanical durability</b>	20,000 operations min.	
<b>Weight</b>	Approx. 3.4 kg (not including D4JL Guard Lock Safety-door Switch)	Approx. 2.8 kg (not including D4NS Safety-door Switch)

- Do not store the Switch where corrosive gases (e.g., H<sub>2</sub>S, SO<sub>2</sub>, NH<sub>3</sub>, HNO<sub>3</sub>, or CL<sub>2</sub>) or dust are present, or in locations subject to high temperature or humidity.
- Perform maintenance inspections periodically.
- This product is for use only with OMRON Safety-door Switches. Do not use it with door switches made by other manufacturers.



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