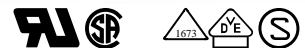
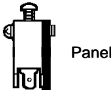
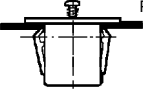


Power Switch with Fail-safe Mechanisms

- Minimum contact gap of 3 mm called for in general power switches is satisfied.
- Fail-safe mechanisms with double return spring and direct drive positive contact opening features.
- Conforms to Class II of VDE Insulation. Safety-oriented structure with 6 mm min. insulation distance between terminals of the same polarity, 8 mm min. between current-carrying metal part and ground, and 8 mm min. between each terminal and non-current-carrying metal part.
- Pull-on lock model for easy maintenance is also added in D2D series.
- Quick-connect terminal #250 series (conforming to DIN standard).



Ordering Information

Mounting method	Contact form	Standard	Pull-on lock
		Contact gap: 3 mm min.	Contact gap: 1 mm
Screw mounting 	SPDT-NO/NC	D2D-1000	D2D-2000
	SPST-NO	D2D-1001	---
	SPST-NC	D2D-1002	---
Panel mounting 	SPDT-NO/NC	D2D-1100	D2D-2100
	SPST-NO	D2D-1101	---
	SPST-NC	D2D-1102	---
	DPST-NO + SPST-NC	D2D-3103	---
	DPST-NO	D2D-3104	---

Specifications

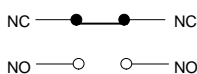
■ Ratings

Type	Rated voltage	Non-inductive load		Inductive load		Inrush current	
		Resistive load		Motor load		NC	NO
		NC	NO	NC	NO		
Standard	125 VAC	16 A		4 A		30 A max. (24 A max.)	30 A max. (24 A max.)
	250 VAC	16 A		4 A			
	380 VAC	16 A		4 A			
Pull-on lock	125 VAC	10 A		---			
	250 VAC	10 A		---			

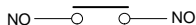
- Note:**
1. Inductive load has a power factor of 0.4 min. (AC) and a time constant of 7 ms max. (DC).
 2. Motor load has an inrush current of 6 times the steady-state current.
 3. Data in parentheses in the above table apply to the pull-on lock models.

Contact Form

SPDT



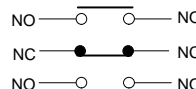
SPST-NO



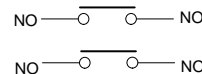
SPST-NC



SPST-NO + SPDT



DPST-NO



■ Characteristics

Operating speed	10 mm to 1 m/s
Operating frequency	Mechanical: 300 operations/min Electrical: 60 operations/min
Insulation resistance	100 MΩ min. (at 500 VDC)
Contact resistance	50 mΩ max. (initial value)
Dielectric strength	Standard 2,000 VAC, 50/60 Hz for 1 min between terminals of same polarity, and between current-carrying metal part and ground 2,500 VAC, 50/60 Hz for 1 min between each terminal and non-current-carrying metal part (1,000 VAC) Pull-on lock 1,000 VAC, 50/60 Hz for 1 min between terminals of same polarity 1,500 VAC, 50/60 Hz for 1 min between current-carrying metal part and ground, and between each terminal and non-current-carrying metal part
Temperature rise	30°C max. (initial value)
Vibration resistance	Malfunction: 10 to 55 Hz, 1.5-mm double amplitude
Shock resistance	Destruction: 1,000 m/s ² min. (approx. 100G min.) Malfunction: 500 m/s ² (approx. 50G) (300 m/s ² (approx. 30G) for pull-on models)
Life expectancy	Mechanical: 10,000,000 operations min. Electrical: 100,000 operations min.
Ambient temperature	Operating: -25°C to 85°C (with no icing)
Ambient humidity	Operating: 85% max.
Weight	Approx. 14 g (D2D-1000)

■ Approved Standards

UL (File No. E32667)/CSA (File No. LR21642)

D2D-1 series: 16 A, 250 VAC
D2D-2 series: 10 A, 250 VAC
D2D-3 series: 16 A, 250 VAC
3/4 HP 125 VAC, 1-1/2 HP 250 VAC

VDE (File No. 1673)

D2D-1 series: 16 (4) A, 380 VAC
D2D-2 series: 10 A, 250 VAC

VDE (File No. 36132)

D2D-3 series: 16 (4) A, 380 VAC

SEMKO (File NO. 8444083)

D2D-2 series: 10 A, 250 VAC

■ Operating Characteristics

Note: NC-OFF: The force applied to the actuator to cause it to move from the free position to the position at which the NC contact opens.

NO-ON: The force applied to the actuator to cause it to move from the free position to the position at which the NC contact opens.

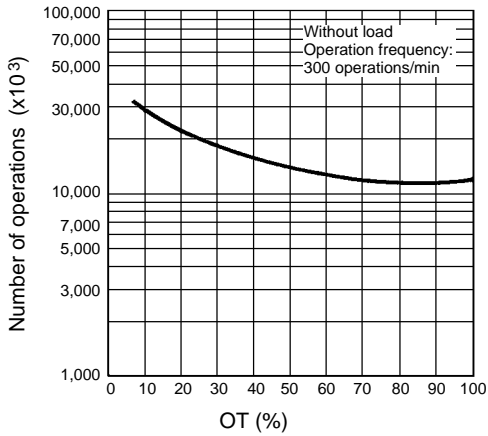
Model		Standard					
		Screw mount			Panel mount		
		D2D-1000	D2D-1001	D2D-1002	D2D-1100	D2D-1101	D2D-1102
OF max.	NC-OFF	2.94 N (300 gf)	---	2.94 N (300 gf)	2.94 N (300 gf)	---	2.94 N (300 gf)
	NO-ON	5.88 N (600 gf)	5.88 N (600 gf)	---	5.88 N (600 gf)	5.88 N (600 gf)	---
TTF max.		7.35 N (750 gf)	7.35 N (750 gf)	7.35 N (750 gf)	7.35 N (750 gf)	7.35 N (750 gf)	7.35 N (750 gf)
OT min.		2.3 mm	2.3 mm	5.5 mm	2.3 mm	2.3 mm	5.5 mm
TTP max.		10 mm	10 mm	10 mm	6 mm	6 mm	6 mm
FP max.		16.4 mm	17 mm	16.4 mm	12.4 mm	13 mm	12.4 mm
OP	NC-OFF	15.9±0.4 mm	---	15.9±0.4 mm	11.9±0.4 mm	---	11.9±0.4 mm
	NO-ON	12.7±0.4 mm	12.7±0.4 mm	---	8.7±0.4 mm	8.7±0.4 mm	---

Model		Standard		Pull-on lock	
		Panel mount		Screw mount (Momentary action (normal operation))	
Model		D2D-3103	D2D-3104	D2D-2000	D2D-2100
OF max.	NC-OFF	2.94 N (300 gf)	---	1.96 N (200 gf)	1.96 N (200 gf)
	NO-ON	5.88 N (600 gf)	5.88 N (600 gf)	2.94 N (300 gf)	2.94 N (300 gf)
TTF max.		9.81 N (1,000 gf)	9.81 N (1,000 gf)	5.88 N (600 gf)	5.88 N (600 gf)
OT min.		2.3 mm	2.3 mm	4.5 mm	4.5 mm
TTP max.		6.4 mm	6.4 mm	8.3 mm	4.3 mm
FP max.		12.4 mm	13.5 mm	14.3 mm	10.3 mm
OP	NC-OFF	11.9±0.8 mm	---	13.5±0.6 mm	9.5±0.6 mm
	NO-ON	8.7±0.8 mm	8.7±0.8 mm	12.7±0.6 mm	8.7±0.6 mm

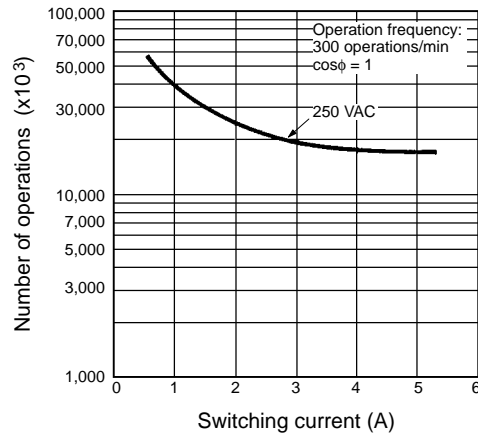
Model		Pull-on lock	
		Panel mount (Pull-on lock action)	
Model		D2D-2000	D2D-2100
OF max.	NC-OFF	19.61 N (2,000 gf)	19.61 N (2,000 gf)
PT max.		2 mm	2 mm
OT min.		0.4 mm	0.4 mm
MD max.		1.5 mm	1.5 mm
TTP max.		16.5 mm	12.5 mm
FP max.		14.3 mm	10.3 mm
OP		15.1±0.6 mm	11.1±0.6 mm

Engineering Data

Mechanical Life Expectancy

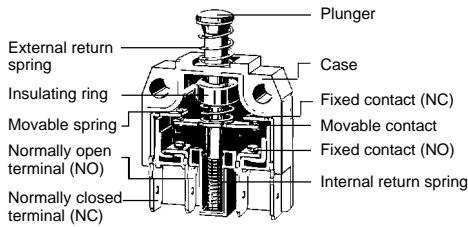


Electrical Life Expectancy

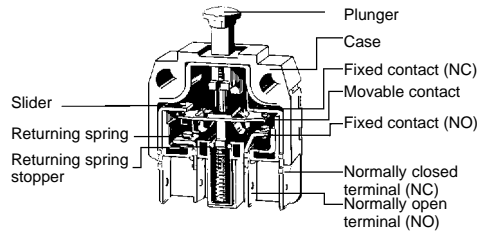


Nomenclature

Standard Model



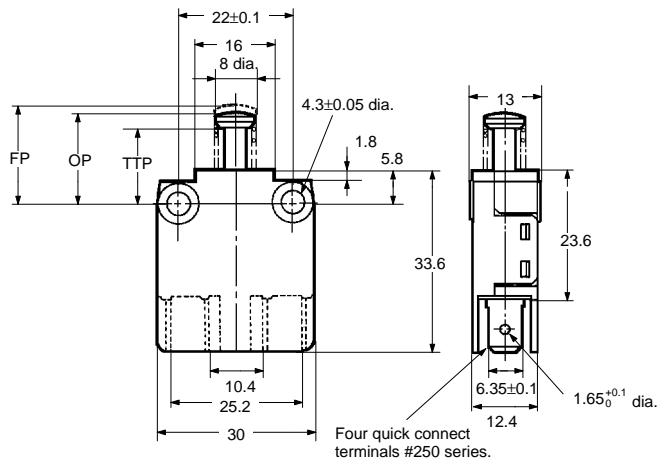
Pull-on Lock Model



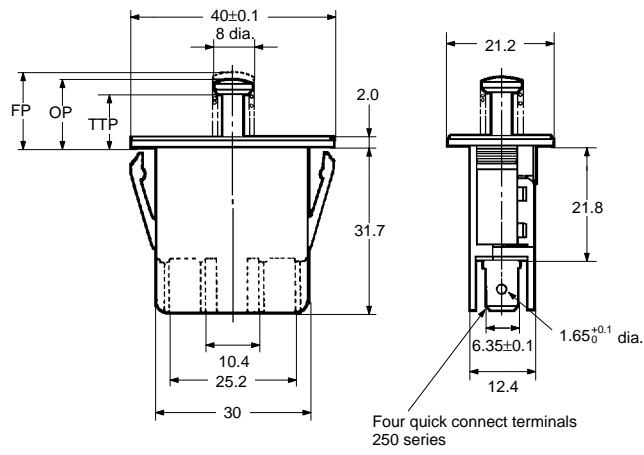
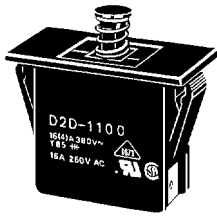
Dimensions

- Note:** 1. All units are in millimeters unless otherwise indicated.
2. Unless otherwise specified, a tolerance of ± 0.4 mm applies to all dimensions.

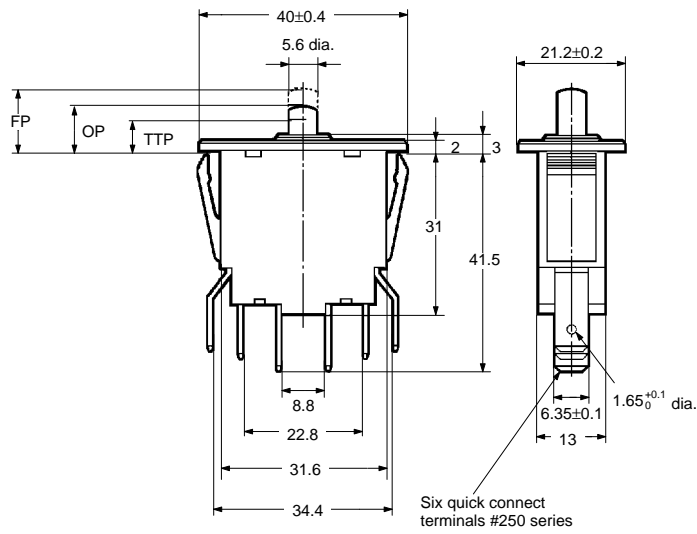
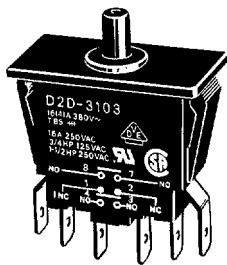
D2D-1000
D2D-1001
D2D-1002



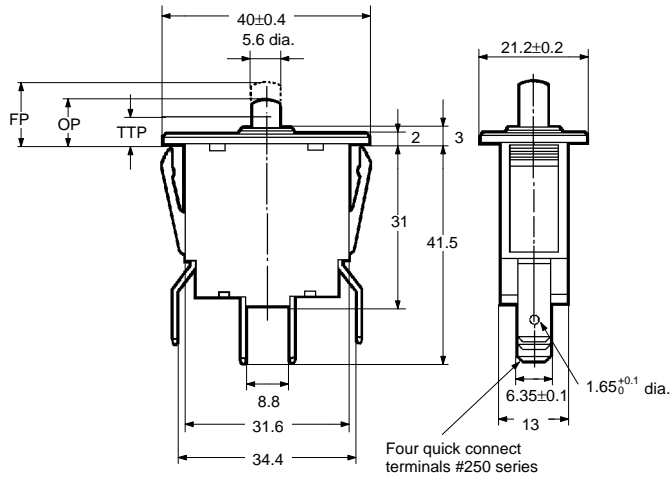
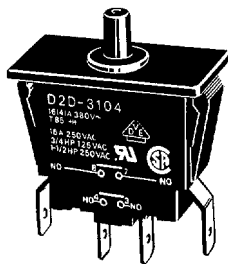
D2D-1100
D2D-1101
D2D-1102



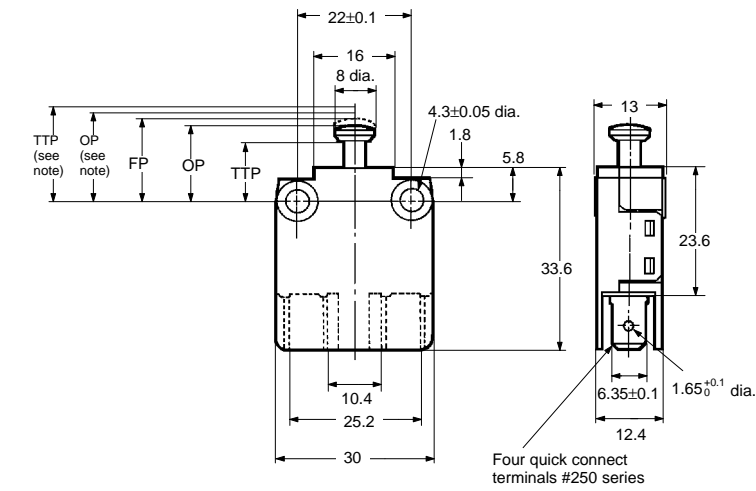
D2D-3103



D2D-3104

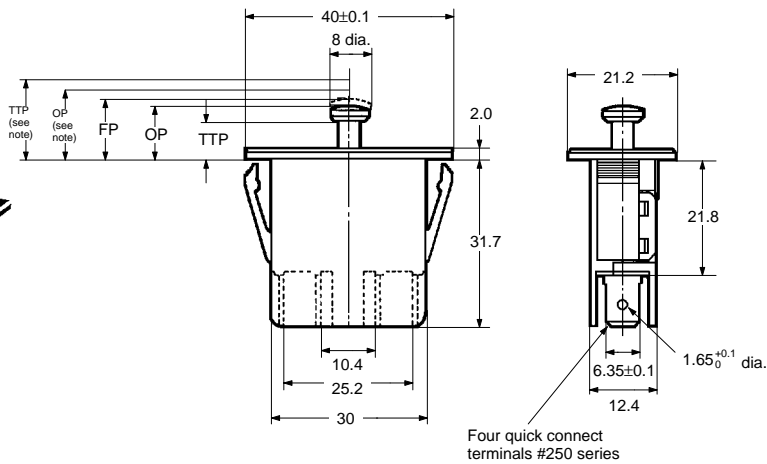
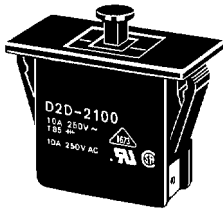


D2D-2000



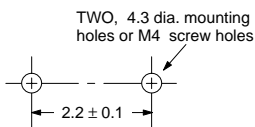
Note: At pull-on lock operation.

D2D2100



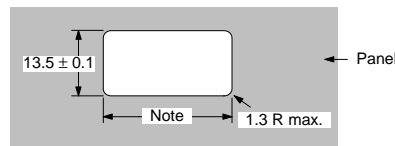
Note: At pull-on lock operation.

Mounting Holes



Panel Cutout

Panel thickness: 1.0 to 2.5 mm



Note: Dimension is 36.7±0.1 with a panel thickness of 1.0 mm and 37.0±0.1 with a panel thickness of 2.5 mm

Precautions

Mounting

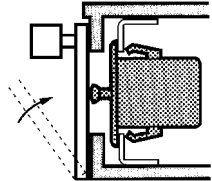
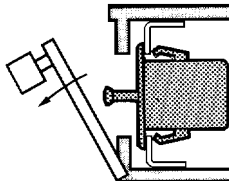
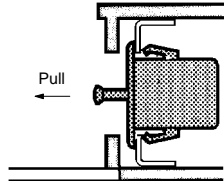
Use M4 mounting screws with plain or spring washers to mount the switch. Tighten the screws to a torque of 5 to 7 kg • cm (0.49 to 0.69 N • m).

Pull-on Lock Function

When opening or closing the door, the power ON state of the switch can be checked with the door left open. By closing the door after

maintenance inspection, the switch will resume the normal momentary action. (This feature is ideal for conducting the electrical continuity test, inspection, repair, etc. of the switch after its assembly.)

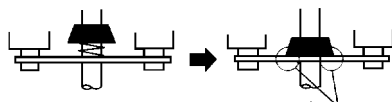
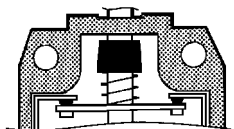
Use of a receptacle with an insulated sleeve or Positive Lock (by AMP) is recommended for terminal wiring. Exercise care that no excessive force is applied to the wired terminals.

Example		To turn on the power when the door is closed	To turn off the power when the door is open	To turn on the power with the door left open
State				
Connection	NO-NO	ON	OFF	ON
	NC-NC	(OFF)	(ON)	(OFF)

Fail-safe Mechanisms

Double Spring Feature

Two return springs are provided for the pin plunger. Thus, when either of the spring is broken, this feature will prevent the switch from malfunctioning or short-circuiting.
(The pull-on lock switch is not provided with this function.)



The section marked ▲ pushes the movable contact to apply force in the direction which separates the movable contact forcibly from the fixed contact.

Direct Drive positive Contact Opening Feature

The section marked ▲ will positively break the circuit if a contact weld occurs in the switch.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.