

Guard Lock Safety-door Switch D4NL

Best-selling Guard Lock Safety-door Switch Available in Several Compact, Multi-contact Models

- Selectable Operation Key insertion direction and adjustable mounting ensure installation flexibility.
- Built-in switches with multiple-contact construction are available.
- Key holding force of 1,300 N minimum.
- Can be used for either standard loads or microloads.
- Lineup includes models with a conduit size of M20.
- IP67 degree of protection.

Note: Be sure to read the “Safety Precautions” on page 400 and the “Precautions for All Safety Door Switches” on page 317.



Model Number Structure

Model Number Legend

Switch

D4NL-□□□□-□□□
1 2 3 4 5 6 7

1. Conduit Size

- 1: Pg13.5
- 2: G1/2
- 4: M20

2. Built-in Switch (with Door Open/Closed Detection Switch and Lock Monitor Switch Contacts)

- A: 1NC/1NO slow-action contacts plus 1NC/1NO slow-action contacts
- B: 1NC/1NO slow-action contacts plus 2NC slow-action contacts
- C: 2NC slow-action contacts plus 1NC/1NO slow-action contacts
- D: 2NC slow-action contacts plus 2NC slow-action contacts
- E: 2NC/1NO slow-action contacts plus 1NC/1NO slow-action contacts
- F: 2NC/1NO slow-action contacts plus 2NC slow-action contacts
- G: 3NC slow-action contacts plus 1NC/1NO slow-action contacts
- H: 3NC slow-action contacts plus 2NC slow-action contacts

3. Head Mounting Direction and Material

- F: Four mounting directions possible (Front-side mounting at time of delivery)/plastic
- D: Four mounting directions possible (Front-side mounting at time of delivery)/metal

4. Door Lock and Release

- A: Mechanical lock/24-VDC solenoid release
- B: Mechanical lock/110-VAC solenoid release
- C: Mechanical lock/230-VAC solenoid release
- G: 24-VDC solenoid lock/mechanical release
- H: 110-VAC solenoid lock/mechanical release
- J: 230-VAC solenoid lock/mechanical release

5. Indicator

- B: 10 to 115 VAC/VDC (orange LED indicator)

6. Release Key Type

- Blank: Standard
- 4: Special release key

7. Release Key Position

- Blank: Bottom
- S: Front

Note: Models with M20 conduits are also available with an M20 to 1/2-14NPT Adaptor.

Operation Key

D4DS-K□
1

1. Operation Key Type

- 1: Horizontal mounting
- 2: Vertical mounting
- 3: Adjustable mounting (horizontal)
- 5: Adjustable mounting (horizontal/vertical)

Ordering Information

List of Models

Switches (Operation Keys are sold separately.)

■: Models with certified direct opening contacts.



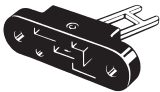

Head material	Release key position	Release key type	Solenoid voltage/ indicator	Lock and release types	Contact configuration (door open/closed detection switch and lock monitor switch contacts) (slow-action) Certified direct opening NC contact	Conduit opening	Model
Plastic (See note.)	Bottom	Standard	Solenoid: 24 VDC Orange LED: 10 to 115 VAC/VDC	Mechanical lock Solenoid release	1NC/1NO+1NC/1NO	Pg13.5	D4NL-1AFA-B
						G1/2	D4NL-2AFA-B
						M20	D4NL-4AFA-B
					1NC/1NO+2NC	Pg13.5	D4NL-1BFA-B
						G1/2	D4NL-2BFA-B
						M20	D4NL-4BFA-B
					2NC+1NC/1NO	Pg13.5	D4NL-1CFA-B
						G1/2	D4NL-2CFA-B
						M20	D4NL-4CFA-B
					2NC+2NC	Pg13.5	D4NL-1DFA-B
						G1/2	D4NL-2DFA-B
						M20	D4NL-4DFA-B
					2NC/1NO+1NC/1NO	Pg13.5	D4NL-1EFA-B
						G1/2	D4NL-2EFA-B
						M20	D4NL-4EFA-B
					2NC/1NO+2NC	Pg13.5	D4NL-1FFA-B
						G1/2	D4NL-2FFA-B
						M20	D4NL-4FFA-B
					3NC+1NC/1NO	Pg13.5	D4NL-1GFA-B
						G1/2	D4NL-2GFA-B
						M20	D4NL-4GFA-B
					3NC+2NC	Pg13.5	D4NL-1HFA-B
						G1/2	D4NL-2HFA-B
						M20	D4NL-4HFA-B
				Solenoid lock Mechanical release	1NC/1NO+1NC/1NO	Pg13.5	D4NL-1AFG-B
						G1/2	D4NL-2AFG-B
						M20	D4NL-4AFG-B
					1NC/1NO+2NC	Pg13.5	D4NL-1BFG-B
						G1/2	D4NL-2BFG-B
						M20	D4NL-4BFG-B
					2NC+1NC/1NO	Pg13.5	D4NL-1CFG-B
						G1/2	D4NL-2CFG-B
						M20	D4NL-4CFG-B
					2NC+2NC	Pg13.5	D4NL-1DFG-B
						G1/2	D4NL-2DFG-B
						M20	D4NL-4DFG-B
					2NC/1NO+1NC/1NO	Pg13.5	D4NL-1EFG-B
						G1/2	D4NL-2EFG-B
						M20	D4NL-4EFG-B
					2NC/1NO+2NC	Pg13.5	D4NL-1FFG-B
						G1/2	D4NL-2FFG-B
						M20	D4NL-4FFG-B
					3NC+1NC/1NO	Pg13.5	D4NL-1GFG-B
						G1/2	D4NL-2GFG-B
						M20	D4NL-4GFG-B
					3NC+2NC	Pg13.5	D4NL-1HFG-B
						G1/2	D4NL-2HFG-B
						M20	D4NL-4HFG-B

Note: Switches with metal heads can also be manufactured upon request. Ask your OMRON representative for details.

Head material	Release key position	Release key type	Solenoid voltage/ indicator	Lock and release types	Contact configuration (door open/closed detection switch and lock monitor switch contacts) (slow-action) Certified direct opening NC contact	Conduit opening	Model
Plastic (See note.)	Bottom	Special release key	Solenoid: 24 VDC Orange LED: 10 to 115 VAC/VDC	Mechanical lock Solenoid release	1NC/1NO+1NC/1NO	Pg13.5	D4NL-1AFA-B4
						G1/2	D4NL-2AFA-B4
						M20	D4NL-4AFA-B4
					1NC/1NO+2NC	Pg13.5	D4NL-1BFA-B4
						G1/2	D4NL-2BFA-B4
						M20	D4NL-4BFA-B4
					2NC+1NC/1NO	Pg13.5	D4NL-1CFA-B4
						G1/2	D4NL-2CFA-B4
						M20	D4NL-4CFA-B4
					2NC+2NC	Pg13.5	D4NL-1DFA-B4
						G1/2	D4NL-2DFA-B4
						M20	D4NL-4DFA-B4
					2NC/1NO+1NC/1NO	Pg13.5	D4NL-1EFA-B4
						G1/2	D4NL-2EFA-B4
						M20	D4NL-4EFA-B4
					2NC/1NO+2NC	Pg13.5	D4NL-1FFA-B4
						G1/2	D4NL-2FFA-B4
						M20	D4NL-4FFA-B4
					3NC+1NC/1NO	Pg13.5	D4NL-1GFA-B4
						G1/2	D4NL-2GFA-B4
						M20	D4NL-4GFA-B4
					3NC+2NC	Pg13.5	D4NL-1HFA-B4
						G1/2	D4NL-2HFA-B4
						M20	D4NL-4HFA-B4
				Solenoid lock Mechanical release	1NC/1NO+1NC/1NO	Pg13.5	D4NL-1AFG-B4
						G1/2	D4NL-2AFG-B4
						M20	D4NL-4AFG-B4
					1NC/1NO+2NC	Pg13.5	D4NL-1BFG-B4
						G1/2	D4NL-2BFG-B4
						M20	D4NL-4BFG-B4
					2NC+1NC/1NO	Pg13.5	D4NL-1CFG-B4
						G1/2	D4NL-2CFG-B4
						M20	D4NL-4CFG-B4
					2NC+2NC	Pg13.5	D4NL-1DFG-B4
						G1/2	D4NL-2DFG-B4
						M20	D4NL-4DFG-B4
					2NC/1NO+1NC/1NO	Pg13.5	D4NL-1EFG-B4
						G1/2	D4NL-2EFG-B4
						M20	D4NL-4EFG-B4
					2NC/1NO+2NC	Pg13.5	D4NL-1FFG-B4
						G1/2	D4NL-2FFG-B4
						M20	D4NL-4FFG-B4
					3NC+1NC/1NO	Pg13.5	D4NL-1GFG-B4
						G1/2	D4NL-2GFG-B4
						M20	D4NL-4GFG-B4
					3NC+2NC	Pg13.5	D4NL-1HFG-B4
						G1/2	D4NL-2HFG-B4
						M20	D4NL-4HFG-B4

Note: Switches with metal heads can also be manufactured upon request. Ask your OMRON representative for details.

Operation Keys

Type		Model
Horizontal mounting		D4DS-K1
Vertical mounting		D4DS-K2
Adjustable mounting (Horizontal)		D4DS-K3
Adjustable mounting (Horizontal/Vertical)		D4DS-K5

Specifications

■ Standards and EC Directives

- Machinery Directive
- Low Voltage Directive
- EN1088
- EN60204-1
- GS-ET-19

■ Certified Standards

Certification body	Standard	File No.
TÜV Product Service	EN60947-5-1 (certified direct opening)	(See note 1.)
UL (See note 2.)	UL508, CSA C22.2 No.14	E76675
CQC (CCC)	GB14048.5	2003010305064 267

- Note:** 1. Consult your OMRON representative for details.
 2. Certification for CSA C22.2 No. 14 is authorized by the UL mark.
 3. Ask your OMRON representative for information on certified models.

■ Certified Standard Ratings

TÜV (EN60947-5-1), CCC (GB14048.5)

Item	Utilization category	AC-15	DC-13
Rated operating current (I_e)		3 A	0.27 A
Rated operating voltage (U_e)		240 V	250 V

Note: Use a 10-A fuse type gI or gG that conforms to IEC60269 as a short-circuit protection device. This fuse is not built into the Switch.

UL/CSA (UL508, CSA C22.2 No. 14)

A300

Rated voltage	Carry current	Current		Volt-amperes	
		Make	Break	Make	Break
120 VAC	10 A	60 A	6 A	7,200 VA	720 VA
240 VAC		30 A	3 A		

Q300

Rated voltage	Carry current	Current		Volt-amperes	
		Make	Break	Make	Break
125 VDC	2.5 A	0.55 A	0.55 A	69 VA	69 VA
250 VDC		0.27 A	0.27 A		

Solenoid Coil Characteristics

Item	24 VDC	110 VAC	230 VAC
Rated operating voltage (100% ED)	24 VDC ^{+10%} _{-10%}	110 VAC ±10%	230 VAC ±10%
Current consumption	Approx. 200 mA	Approx. 50 mA	Approx. 30 mA
Insulation	Class F (130°C max.)		

Indicator Characteristics

Item	LED
Rated voltage	10 to 115 VAC/VDC
Current leakage	Approx. 1 mA
Color (LED)	Orange