## World's smallest Class 6-contact Guard Lock Safety-door Switch

<Guard Lock Safety-door Switch D4SL-N>

- Wiring time is reduced with two types of wiring methods capable of one-touch attachment and removal.
- A wide variety of built-in switches can be used for various devices.
(4-, 5-, and 6-contact models are available)
- Key holding force of $1,300 \mathrm{~N}$.
- It is possible to change the key insertion point without detaching the head.
- Drive solenoids directly from the Controller.
- Conforms to ISO 14119.

<Slide Key D4SL-NSK10-LK $\square$ >
- Lockout Key to prevent workers from becoming trapped inside the hazardous area.
- The vertical D4SL Guard Lock Safety-door Switch can be easily mounted on $40 \times 40 \mathrm{~mm}$ aluminum frames.
- The plastic material makes the Slide Key suitable for lightweight doors.

[^0]
## D4SL－N／D4SL－NSK10－LK $\square$

## Model Number Structure

## Model Number Legend

Switch（Standard type）
D4SL-N回回困-回回

## （1）Conduit Size

\left.| Contact Model | Conduit Size |
| :--- | :--- |
| 4－contact Model |  |
| 5－contact Model |  |
| 6－contact Model |  |$\right\}$ Common | 2：G1／2 |
| :--- |
|  |

## （2）Built－in Switch

| Contact Model | Built－in Switch |
| :---: | :--- |
|  | Door monitor and Lock monitor are connected in series |
|  | internally． |
|  | A： $1 \mathrm{NC} / 1 \mathrm{NO}+1 \mathrm{NC} / 1 \mathrm{NO}$ |
|  | B： $1 \mathrm{NC} / 1 \mathrm{NO}+2 \mathrm{NC}$ |
|  | C： $2 \mathrm{NC}+1 \mathrm{NC} / 1 \mathrm{NO}$ |
| 4－contact Model | D： $2 \mathrm{NC}+2 \mathrm{NC}$ |
|  | Door monitor and Lock monitor are NOT connected in |
|  | series internally． |
|  | S： $1 \mathrm{NC} / 1 \mathrm{NO}+1 \mathrm{NC} / 1 \mathrm{NO}$ |
|  | T： $1 \mathrm{NC} / 1 \mathrm{NO}+2 \mathrm{NC}$ |
|  | U： $2 \mathrm{NC}+1 \mathrm{NC} / 1 \mathrm{NO}$ |
|  | V： $2 \mathrm{NC}+2 \mathrm{NC}$ |
|  | E： $2 \mathrm{NC} / 1 \mathrm{NO}+1 \mathrm{NC} / 1 \mathrm{NO}$ |
|  | F： $2 \mathrm{NC} / 1 \mathrm{NO}+2 \mathrm{NC}$ |
|  | G： $3 \mathrm{NC}+1 \mathrm{NC} / 1 \mathrm{NO}$ |
|  | H： $3 \mathrm{NC}+2 \mathrm{NC}$ |
|  | $\mathrm{N}: 2 \mathrm{NC} / 1 \mathrm{NO}+2 \mathrm{NC} / 1 \mathrm{NO}$ |
| 6－contact Model | P： $2 \mathrm{NC} / 1 \mathrm{NO}+3 \mathrm{NC}$ |
|  | Q： $3 \mathrm{NC}+2 \mathrm{NC} / 1 \mathrm{NO}$ |
|  | R： $3 \mathrm{NC}+3 \mathrm{NC}$ |

（3）Head Material

| Contact Model | Head Material |
| :--- | :--- |
| 4－contact Model | F：Resin |
| 5－contact Model <br> 6－contact Model $\}$ Common | F：Resin |
|  | D：Metal |

＊1．M20，includes M20－to－1／2－14NPT conversion adapter．
＊2．Connector cables are not included with the connector type and are to be purchased separately．

## Operation key

## D4SL－NK（a）

（4）Door Lock and Release

| Contact Model | Door Lock and Release |
| :---: | :---: |
| $\left.\begin{array}{l}\text { 4－contact Model } \\ \text { 5－contact Model } \\ \text { 6－contact Model }\end{array}\right\}$ Common | A：Mechanical lock／24VDC solenoid release <br> G：24VDC solenoid lock／mechanical release |

5）Indicator

| Contact Model | Indicator |
| :--- | :--- |
| 4－contact Model | －：None |
| $\left.\begin{array}{l}\text { 5－contact Model } \\ \text { 6－contact Model }\end{array}\right\}$ Common | D：24VDC（orange LED indicator） |

（6）Release Key Type

| Contact Model | Release Key Type |
| :--- | :--- |
| 4－contact Model | －：Standard release key（metal） |
| $\left.\begin{array}{l}\text { 5－contact Model } \\ \text { 6－contact Model }\end{array}\right\}$ Common | －：Standard release key（metal） <br> 4：Special release key（resin） <br> （Note：Release keys are provided．） |

7）Connection Method

| Contact Model | Connection Method |
| :--- | :--- |
| $\left.\begin{array}{l}\text { 4－contact Model } \\ \text { 5－contact Model } \\ \text { 6－contact Model }\end{array}\right\}$ Common | －：Terminal block |
| N：Connector＊2 |  |


| （1）Operation Key Type | （2）Key Type |
| :--- | :--- |
| 1：Horizontal mounting | －：No cushion rubber |
| 2：Vertical mounting | G：Cushion rubber |
| 3：Adjustable mounting（horizontal） | S：No cushion rubber，short type |
| 5：Adjustable mounting（horizontal／vertical） |  |

## Ordering Information

## List of Models

| Release Key Type | Wiring method | Solenoid voltage／ Indicator | Lock and release type | Contact configuration （door open／closed detection switch and lock monitor switch contacts） | $\begin{gathered} \text { Conduit } \\ \text { size } \\ \text { (See Note.) } \end{gathered}$ | Model |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Standard （metal） | Connector | 24VDC （Orange） | Mechanical lock Solenoid release | 6－contact Model Insert the built－in switch（N，P，Q or R） into the blank $\square$ ． | G1／2 | D4SL－N2口FA－DN |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3口FA－DN |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FA－DN |
|  |  |  |  | 5－contact Model Insert the built－in switch（E，F，G or H） into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FA－DN |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3口FA－DN |
|  |  |  |  |  | M20 | D4SL－N4■FA－DN |
|  |  | 24 VDC（without indicator） |  | 4－contact Model Insert the built－in switch（A，B，C，D，S， $\mathrm{T}, \mathrm{U}$ or V ）into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FA－N |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FA－N |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FA－N |
|  | Terminal block | 24VDC <br> （Orange） |  | 6－contact Model Insert the built－in switch（N，P，Q or R） into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FA－D |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FA－D |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FA－D |
|  |  |  |  | 5－contact Model Insert the built－in switch（E，F，G or H） into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FA－D |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FA－D |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FA－D |
|  |  | 24VDC <br> （without indicator） |  | 4－contact Model Insert the built－in switch（A，B，C，D，S， $\mathrm{T}, \mathrm{U}$ or V ）into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FA |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FA |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FA |
|  | Connector | 24VDC <br> （Orange） | Solenoid lock Mechanical release | 6－contact Model Insert the built－in switch（N，P，Q or R） into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FG－DN |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FG－DN |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FG－DN |
|  |  |  |  | 5－contact Model Insert the built－in switch（E，F，G or H） into the blank $\square$ ． | G1／2 | D4SL－N2口FG－DN |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3口FG－DN |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FG－DN |
|  |  | 24VDC <br> （without indicator） |  | 4－contact Model Insert the built－in switch（A，B，C，D，S， $\mathrm{T}, \mathrm{U}$ or V ）into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FG－N |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FG－N |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FG－N |
|  | Terminal block | 24VDC （Orange） |  | 6－contact Model Insert the built－in switch（N，P，Q or R） into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FG－D |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FG－D |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FG－D |
|  |  |  |  | 5－contact Model Insert the built－in switch（E，F，G or H） into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FG－D |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FG－D |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FG－D |
|  |  | 24VDC <br> （without indicator） |  | 4－contact Model Insert the built－in switch（A，B，C，D，S， $\mathrm{T}, \mathrm{U}$ or V ）into the blank $\square$ ． | G1／2 | D4SL－N2 $\square$ FG |
|  |  |  |  |  | 1／2－14NPT | D4SL－N3 $\square$ FG |
|  |  |  |  |  | M20 | D4SL－N4 $\square$ FG |

Note：The recommended models for equipment and machinery being exported to Europe are those with an M20 conduit sizes，and for North America，the recommended models are those with a $1 / 2-14 \mathrm{NPT}$ conduit sizes．

| Release Key Type | Wiring method | Solenoid voltage/ Indicator | Lock and release type | Contact configuration (door open/closed detection switch and lock monitor switch contacts) | Conduit size (See Note.) | Model |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Special (resin) | Connector | 24VDC <br> (Orange) | Mechanical lock Solenoid release | 6-contact Model Insert the built-in switch (N, P, Q or R) into the blank $\square$. | G1/2 | D4SL-N2 $\square$ FA-D4N |
|  |  |  |  |  | 1/2-14NPT | D4SL-N3 $\square$ FA-D4N |
|  |  |  |  |  | M20 | D4SL-N4 $\square$ FA-D4N |
|  |  |  |  | 5-contact Model Insert the built-in switch (E, F, G or H) into the blank $\square$. | G1/2 | D4SL-N2■FA-D4N |
|  |  |  |  |  | 1/2-14NPT | D4SL-N3 $\square$ FA-D4N |
|  |  |  |  |  | M20 | D4SL-N4 $\square$ FA-D4N |
|  | Terminal block |  |  | 6-contact Model | G1/2 | D4SL-N2 $\square$ FA-D4 |
|  |  |  |  | Insert the built-in switch (N, P, Q or R) | 1/2-14NPT | D4SL-N3 $\square$ FA-D4 |
|  |  |  |  | blank $\square$. | M20 | D4SL-N4 $\square$ FA-D4 |
|  |  |  |  | 5-contact Model Insert the built-in switch (E, F, G or H) into the blank $\square$. | G1/2 | D4SL-N2 $\square$ FA-D4 |
|  |  |  |  |  | 1/2-14NPT | D4SL-N3 $\square$ FA-D4 |
|  |  |  |  |  | M20 | D4SL-N4 $\square$ FA-D4 |
|  | Connector |  | Solenoid lock Mechanical release | 6-contact Model | G1/2 | D4SL-N2 $\square$ FG-D4N |
|  |  |  |  | Insert the built-in switch (N, P, Q or R) | 1/2-14NPT | D4SL-N3 $\square$ FG-D4N |
|  |  |  |  | into the blank $\square$. | M20 | D4SL-N4 $\square$ FG-D4N |
|  |  |  |  | 5-contact Model | G1/2 | D4SL-N2■FG-D4N |
|  |  |  |  | Insert the built-in switch (E, F, G or H) | 1/2-14NPT | D4SL-N3 $\square$ FG-D4N |
|  |  |  |  | into the blank $\square$. | M20 | D4SL-N4 $\square$ FG-D4N |
|  | Terminal block |  |  | 6-contact Model | G1/2 | D4SL-N2 $\square$ FG-D4 |
|  |  |  |  | Insert the built-in switch (N, P, Q or R) | 1/2-14NPT | D4SL-N3 $\square$ FG-D4 |
|  |  |  |  | into the blank $\square$. | M20 | D4SL-N4 $\square$ FG-D4 |
|  |  |  |  | 5-contact Model | G1/2 | D4SL-N2 $\square$ FG-D4 |
|  |  |  |  | Insert the built-in switch (E, F, G or H) | 1/2-14NPT | D4SL-N3 $\square$ FG-D4 |
|  |  |  |  | into the blank $\square$. | M20 | D4SL-N4 $\square$ FG-D4 |

Note: The recommended models for equipment and machinery being exported to Europe are those with an M20 conduit sizes, and for North America, the recommended models are those with a $1 / 2-14 \mathrm{NPT}$ conduit sizes.


Connector Cables

| Cable length | Model |
| :---: | :---: |
| 1 m | D4SL-CN1 |
| 3 m | D4SL-CN3 |
| 5 m | D4SL-CN5 |
| 10 m | D4SL-CN10 NEW |

Slide Key

| Type | Specifications | Contents | Applicable <br> Door Switch |
| :--- | :--- | :--- | :--- | :--- |

Note: 1. The Door Switch is not included. Select the Door Switch depending on the necessary number of contacts and the conduit size. The contents are provided as a total set, individual contents cannot be ordered separately.
2. Perform risk assessment for the equipment in question, configure relay units and other safety circuits, and use properly.

* The inner lever for D4SL-NSK10 that can not be used for other products and applications.


## Applicable Door Switches

D4SL-NSK10-LK


D4SL-NSK10-LKH


Features
The lockout key prevents workers from becoming trapped without using a padlock.
Note: Using LEDs of D4SL-N enables confirming whether the door is open or closed and locked or unlocked.


## D4SL-N / D4SL-NSK10-LK $\square$

## Structure and Nomenclature

## Structure

D4SL-N $\square \square \square \square-D \square N$ Connector Type


D4SL- $\square \square \square \square$-D Terminal Block Type


Terminal Arrengement


Note: Numbers inside the boxes are terminal numbers printed on the product.

## Operating Cycle Examples for Standard Models

## D4SL-N $\square \square \square A-\square$ (Mechanical Lock Models)



Door open/closed detection and lock monitor contacts: Can be used in safety circuits because of the direct opening mechanisms.
Door open/closed detection contact: Can be used to confirm whether the key is inserted and to monitor the open/closed status of a door. Lock monitor contact: Can be used to confirm whether power is supplied to the solenoid and to monitor whether or not a door can be opened or closed.
Note: 1. The door open/closed detection and lock monitor contact configuration depends on the model.
2. If a current is detected in the solenoid lock model (built-in switches; $N, P, Q, R$ ), before the door is closed, the door will remain unlocked. Be sure to supply power to the solenoid after the door is closed.

## D4SL-N / D4SL-NSK10-LK $\square$

## Specifications

## Standards and EC Directives

## Conforms to the following EC Directives:

- Machinery Directive
- Low Voltage Directive
- EMC Directive
- EN ISO 14119
- EN60204-1
- GS-ET-19

Certified Standards

| Certification body | Standard | File No. |
| :--- | :---: | :--- |
| TÜV SÜD | EN60947-5-1 (certified direct opening) | Consult your OMRON representative for details. |
| UL *1 | UL508, CSA C22.2 No.14 | E76675 |
| CQC (CCC) | GB14048.5 | 2012010305582059 |
| KOSHA *2 | EN60947-5-1 | Consult your OMRON representative for details. |

*1. Certification has been obtained for UL CSA C22.2 No. 14.
*2. Only certain models have been certified.

## Certified Standard Ratings

TüV (EN60947-5-1) CCC (GB14048.5)

| Utilization category | AC-15 | DC-13 |
| :--- | :---: | :---: |
| Rated operating current (le) | $1.5 \mathrm{~A}^{* 1}$ <br> $1 \mathrm{~A}{ }^{* 2}$ | 0.22 A |
| Rated operating voltage (Ue) | 120 V | 125 V |

Note: Use a 4 A fuse that conforms to IEC60127 as a short-circuit protection device. This fuse is not included with the switch.
*1. 11-42, 21-52, 21-22
*2. Other terminals
UL/CSA (UL508, CSA C22.2 No.14)
C150

| Rated voltage | Carry current | Current (A) |  | Volt-amperes (VA) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Make | Break | Make | Break |
| 120 VAC | 2.5 A | 15 | 1.5 | 1,800 | 180 |

R150

| Rated voltage | Carry current | Current (A) |  | Volt-amperes (VA) |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Make | Break | Make | Break |
| 125 VDC | 1.0 A | 0.22 | 0.22 | 28 | 28 |

Solenoid Coil Characteristics

| Item | 24 VDC |
| :--- | :--- |
| Rated operating voltage (100\% ED) | $24 \mathrm{VDC}_{-15 \%}^{+10 \%}$ |
|  | Power ON: |
| Current consumption * | 6-contact type Approx. 6.4 W at 0.26 A |
|  | 4-contact/5-contact type Approx. 4.8 W at 0.2 A |
| Constant: Approx. 2.6 W (average) at 0.2 A (max.) |  |
| Insulation | Class E (to $120^{\circ} \mathrm{C}$ ) |

* A starting current is applied to the solenoid for Approx. 10 seconds. After this, the internal circuit switches to a constant current.
Indicator

| Item | LED type |
| :--- | :--- |
| Rated voltage | 24 VDC |
| Current consumption | Approx.10 mA |
| Color (LED) | Orange |

## Characteristics

| Degree of protection *1 |  | IP67 (EN60947-5-1) |
| :---: | :---: | :---: |
| Durability *2 | Mechanical | 1,000,000 operations min. |
|  | Electrical | 150,000 operations min. (1 A resistance at 125 VAC ) 3 |
| Operating speed |  | 0.05 to $1 \mathrm{~m} / \mathrm{s}$ |
| Operating frequency |  | 4- and 5 -contact Model: 30 operations minute max. 6-contact Model: 5 operations minute max. |
| Direct opening force *4 |  | $60 \mathrm{~N} \mathrm{min}. \mathrm{(EN60947-5-1)}$ |
| Direct opening travel *4 |  | $15 \mathrm{~mm} \mathrm{min}. \mathrm{(EN60947-5-1)}$ |
| Holding force *5 |  | 1,300 N min. |
| Contact resistance |  | $200 \mathrm{~m} \Omega$ max. |
| Minimum applicable load *6 |  | 1 mA resistive load at 5 VDC (N-level reference value) |
| Rated insulation voltage (Ui) |  | 150 V (EN60947-5-1) |
| Rated frequency |  | $50 / 60 \mathrm{~Hz}$ |
| Protection against electric shock |  | Class II(double insulation) |
| Pollution degree (operating environment) |  | 3 (EN60947-5-1) |
| Impulse withstand voltage (EN60947-5-1) | Between terminals of same polarity | 1.5 kV |
|  | Between terminals of different polarity | 1.5 kV |
|  | Between other terminals and non-current carrying metallic parts | 2.5 kV |
| Insulation resistance |  | $100 \Omega \mathrm{~min}$. (at 500 VDC$)$ |
| Vibration resistance | Malfunction | 10 to $55 \mathrm{~Hz}, 0.35 \mathrm{~mm}$ single amplitude |
| Shock resistance | Malfunction | $80 \mathrm{~m} / \mathrm{s}^{2} \mathrm{~min}$. |
|  | Destruction | $1,000 \mathrm{~m} / \mathrm{s}^{2} \mathrm{~min}$. |
| Conditional short-circuit current |  | 100 A (EN60947-5-1) |
| Conventional free air thermal current (lth) |  | $\begin{aligned} & \text { 2.5A (11-42, 21-52, 21-22) } \\ & \text { 1A (Others) } \end{aligned}$ |
| Ambient operating temperature |  | -10 to $55^{\circ} \mathrm{C}$ (with no icing) |
| Ambient operations humidity |  | 95\% max. |
| Weight |  | Head: Resin <br> Approx. 290 g (Connector model) Approx. 330 g (Terminal block model) Head: Metal Approx. 370 g (Connector model) Approx. 410 g (Terminal block model) |

Note: 1. The above values are initial values.
2. The Switch contacts can be used with either standard loads or microloads.

Once the contacts have been used to switch a load, however, they cannot be used to switch smaller loads. The contact surfaces will become rough once they have been used and contact reliability for smaller loads may be reduced.
*1. The degree of protection is tested using the method specified by the standard (EN60947-5-1).
Confirm that sealing properties are sufficient for the operating conditions and environment beforehand.
Although the switch box is protected from dust, oil or water penetration, do not use the D4SL in places where cutting chips, oil, water or chemicals may enter through the key hole on the head, otherwise Switch damage or malfunctioning may occur.
*2. The durability is for an ambient temperature of 5 to $35^{\circ} \mathrm{C}$ and an ambient humidity of $40 \%$ to $70 \%$. For more details, consult your OMRON representative.
*3. Do not pass the 1 A, 125 VAC load through more than 3 circuits.
*4. These figures are minimum requirements for safe operation.
*5. This figure is based on the GS-ET-19 evaluation method.
*6. This value will vary with the switching frequency, environment, and reliability level. Confirm that correct operation is possible with the actual load beforehand.

## D4SL-N / D4SL-NSK10-LK $\square$

## Connection

## Internal Circuit Diagram

## Without indicator



With indicator


## Circuit Connection Example

- Direct opening contacts used as safety-circuit input are indicated with the mark.
- Do not switch circuits for three or more standard loads at the same time. Doing so may adversely affect insulation performance.
- DC solenoids have polarity. (E1: Positive, E2: Negative) Confirm terminal polarity before wiring.
- If a lock is required for safety, design the system so that the closing of the NC contacts on both the door open/closed detection switch and the lock monitor switch is detected.


## Connection Example for D4SL-N $\square$ AF $\square-\square$

Contacts 12 and 41 are internally connected.


## Connection Example for D4SL-N $\square E F \square-\mathrm{D} \square$

Contacts 12 and 41 are internally connected.


Connection Example for D4SL-N $\square$ SF $\square-\square$
There is no internal connection, so connect contacts 22 and 42 or 21 and 42 externally.


## Connection Example for D4SL-N $\square$ NF $\square$-D $\square$

Contacts 12 and 41 and contacts 22 and 51 are internally connected.


## Contact Form

Indicates conditions where the Key is inserted and the lock is applied.


|  | Contact (door open/ closed detection and lock monitor) | Contact Form | Operating pattern |  |  | Remarks |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Model |  | Lock  <br> monitor Door open/ <br> closed <br> detection |  |  |  |  |
| D4SL-N $\square \mathrm{E} \square \square-\square$ | $\begin{gathered} \text { 2NC/1NO+ } \\ \text { 1NC/1NO } \end{gathered}$ |  | $\begin{array}{r} 42-11 \\ 22-21 \\ 34-33 \\ 64-63 \end{array}$ |  |  | Only NC contact 11-12 and 2122 has a certified direct opening mechanism. <br> The terminals 42-11, 22-21, 3433 , and 64-63 can be used as unlike poles. |
| D4SL-N $\square \mathrm{F} \square \square-\square$ | 2NC/1NO+2NC |  | $\begin{aligned} & 42-11 \\ & 22-21 \\ & 34-33 \\ & 62-61 \end{aligned}$ |  |  | Only NC contact 11-12 and 2122 has a certified direct opening mechanism. $\Theta$ <br> The terminals 42-11, 22-21, 3433 , and 62-61 can be used as unlike poles. |
| D4SL-N $\square \mathrm{G} \square \square-\square$ | $3 N C+1 N C / 1 N O$ |  | $\begin{aligned} & 42-11 \\ & 22-21 \\ & 32-31 \\ & 64-63 \end{aligned} \text { - }$ <br> Operation K completion po |  |  | Only NC contact 11-12, 21-22 and 31-32 has a certified direct opening mechanism. $\Theta$ <br> The terminals 42-11, 22-21, 3231 , and 64-63 can be used as unlike poles. |
| D4SL-N $\square \mathrm{H} \square \square-\square$ | 3NC+2NC |  | $\begin{aligned} & 42-11 \\ & 22-21 \\ & 32-31 \\ & 62-61 \end{aligned}$ <br> Operation completion |  |  | Only NC contact 11-12, 21-22 and 31-32 has a certified direct opening mechanism. $\Theta$ <br> The terminals 42-11, 22-21, 3231 , and 62-61 can be used as unlike poles. |
| D4SL-N $\square \mathrm{N} \square \square-\square$ | $\begin{gathered} \text { 2NC/1NO+ } \\ \text { 2NC/1NO } \end{gathered}$ |  | $\begin{aligned} & 42-11 \\ & 52-21 \\ & 34-33 \\ & 64-63 \end{aligned}$ |  |  | Only NC contact 11-12 and 2122 has a certified direct opening mechanism. <br> The terminals 42-11, 52-21, 3433 , and $64-63$ can be used as unlike poles. |
| D4SL-N $\square$ P $\square \square-\square$ | 2NC/1NO+3NC |  | $\begin{aligned} & 42-11 \\ & 52-21 \\ & 34-33 \\ & 62-61 \end{aligned}$ <br> Operation K completion |  |  | Only NC contact 11-12 and 2122 has a certified direct opening mechanism. <br> The terminals 42-11, 52-21, 3433 , and 62-61 can be used as unlike poles. |
| D4SL-N $\square$ Q $\square \square-\square$ | 3NC+2NC/1NO |  | $42-11$ <br> 52-21 <br> 32-31 <br> 64-63 <br> Operation K completion |  |  | Only NC contact 11-12, 21-22 and 31-32 has a certified direct opening mechanism. $\Theta$ <br> The terminals 42-11, 52-21, 3231 , and 64-63 can be used as unlike poles. |
| D4SL-N $\square$ R $\square \square-\square$ | $3 N C+3 N C$ |  | $\begin{aligned} & 42-11 \\ & 52-21 \\ & 32-31 \\ & 62-61 \end{aligned}$ <br> Operation K completion |  |  | Only NC contact 11-12, 21-22 and 31-32 has a certified direct opening mechanism. $\Theta$ <br> The terminals 42-11, 52-21, 3231 , and 62-61 can be used as unlike poles. |

## Switches

D4SL-N $\square \square \square \square-\square$ (Connector Type)


## D4SL-N $\square \square \square \square-\square$ (Terminal Block Type)



| Model | D4SL-N $\square \square \square \square-\square$ |
| :--- | :---: |
| Operating characteristics |  |
| Key insertion force | $15 \mathrm{~N} \mathrm{max}$. |
| Key extraction force | $30 \mathrm{~N} \mathrm{max}$. |
| Pre-travel distance | 15 mm max. |
| Movement before being locked | 3 mm min. |

Note: Unless otherwise specified, a tolerance of $\pm 0.4 \mathrm{~mm}$ applies to all dimensions.

## Operation key



Note: Unless otherwise specified, a tolerance of $\pm 0.4 \mathrm{~mm}$ applies to all dimensions.

## Connector Cables

## D4SL-CN $\square$



| Connector No. | Lead wire color | Connector No. | Lead wire color |
| :---: | :---: | :---: | :---: |
| 1 | Black | 6 | Green/White |
| 2 | Black/White | 7 | Yellow |
| 3 | Red | 8 | Yellow/White |
| 4 | Red/White | 9 | Brown |
| 5 | Green | 10 | Brown/White |

## Slide Key

## D4SL-NSK10-LK



## D4SL-N / D4SL-NSK10-LK $\square$

## D4SL-NSK10-LKH



Operation key Mounting

## D4SL-N+D4SL-NK1




Vertical
 $\begin{aligned} & \text { Vertical } \\ & \text { insertion radius } \\ & \mathrm{R} \geqq 200\end{aligned}$

## D4SL-N+D4SL-NK1S

## With Front-inserted Operation Key With Top-inserted Operation Key



D4SL-N+D4SL-NK1G


With Front-inserted Operation Key
With Top-inserted Operation Key


Horizontal
insertion radius
Pitch 12 mm R $\geq 120 \quad$ Center tolerance
Pitch $12 \mathrm{~mm} \quad R \geqq 120$
Pitch $20 \mathrm{~mm} \quad R \geqq 170$$\quad \begin{aligned} & \text { Center tolerance } \\ & \text { key hole: } \pm 0.8 \\ & \text { (Pitch } 12 \mathrm{~mm} \text { ) }\end{aligned}$


D4SL-N+D4SL-NK2
With Front-inserted Operation Key With Top-inserted Operation Key



[^0]:    ! Be sure to read the "Safety Precautions" on page 22.

