

Applicable Auto Switch Variations

Rotary Actuators Applicable Auto Switch Variations

| Type                                     | Auto switch mounting type | Electrical entry | Auto switch model         | Applicable series |           |          |           |          |       |        |      |       |        |           |          |          | Page |          |
|--|---------------------------|------------------|---------------------------|-------------------|-----------|----------|-----------|----------|-------|--------|------|-------|--------|-----------|----------|----------|------|----------|
|  |                           |                  |                           | Size              | 30 to 100 | 10 to 40 | 50 to 100 | 10 to 40 | 05, 1 | 32, 40 | 1, 3 | 7, 20 | 1 to 7 | 10 to 200 | 10 to 50 | 10 to 40 |      | 10 to 50 |
| Solid State Auto Switch                  | Direct                    | Grommet          | D-M9N/M9P/M9B             |                   | ●         | ●        | ●         | ●        | ●     |        |      |       |        | ●         | ●        | ●        | ●    | 806      |
|  |                           |                  | D-M9NV/M9PV/M9BV          |                   |           |          |           |          |       |        |      |       |        | ●         | ●        | ●        | ●    | 807      |
|  |                           |                  | D-F8N/F8P/F8B             |                   |           |          |           |          | ●     |        |      |       | ●      |           |          |          |      | 808      |
|  |                           |                  | D-Y59A/Y7P/Y59B           |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 809      |
|  |                           |                  | D-Y69A/Y7PV/Y69B          |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 809      |
|  |                           |                  | D-S991/S992/D-S99V1/S99V2 |                   | ●         | ●        |           |          |       |        | ●    |       |        |           |          |          |      | 809      |
|  |                           |                  | D-T991/T992/D-T99V1/T99V2 |                   | ●         | ●        |           |          |       |        | ●    |       |        |           |          |          |      | 810      |
|  |                           |                  | D-S9P1/S9P2/D-S9PV1/S9PV2 |                   | ●         | ●        |           |          |       |        | ●    |       |        |           |          |          |      | 810      |
|  |                           |                  | D-S791/S792               |                   | ●         | ●        | ●         |          |       |        |      | ●     |        |           |          |          |      | 810      |
|  |                           |                  | D-T791/T792               |                   | ●         | ●        | ●         |          |       |        |      | ●     |        |           |          |          |      | 810      |
|  |                           |                  | D-S7P1/S7P2               |                   | ●         | ●        | ●         |          |       |        |      | ●     |        |           |          |          |      | 810      |
|  | Rail                      | Grommet          | D-T791C/T792C             |                   | ●         | ●        |           |          |       |        |      | ●     |        |           |          |          | 810  |          |
|  |                           |                  | D-F79/F7P/J79             |                   |           |          |           |          |       | ●      |      |       |        |           |          |          | 811  |          |
|  |                           | D-F7NV/F7PV/F7BV |                           |                   |           |          |           |          | ●     |        |      |       |        |           |          |          | 812  |          |
|  | Connector                 | D-J79C           |                           |                   |           |          |           |          | ●     |        |      |       |        |           |          |          | 813  |          |
|  | Tie-rod                   | Grommet          | D-F59/F5P/J59             |                   |           |          |           |          |       | ●      |      |       |        |           |          |          | 814  |          |
| 2-color indicator                        | Direct                    | Grommet          | D-M9NW/M9PW/M9BW          |                   | ●         |          |           | ●        | ●     |        |      |       | ●      | ●         | ●        | ●        | 815  |          |
|  |                           |                  | D-M9NWV/M9PWV/M9BWV       |                   |           |          |           |          |       |        |      |       | ●      | ●         | ●        | ●        | 816  |          |
|  |                           |                  | D-Y7NW/Y7PW/Y7BW          |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 817      |
|  |                           |                  | D-Y7NWV/Y7PWV/Y7BWV       |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 818      |
|  | Rail                      | Grommet          | D-F79W/F7PW/J79W          |                   |           |          |           |          |       |        | ●    |       |        |           |          |          | 819  |          |
|  |                           |                  | D-F7NWV/F7BWV             |                   |           |          |           |          |       |        | ●    |       |        |           |          |          |      | 820      |
| Tie-rod                                  | Grommet                   | D-F59W/F5PW/J59W |                           |                   |           |          |           |          |       |        |      |       |        |           |          | 821      |      |          |
| 2-color indicator with diagnostic output | Rail                      | Grommet          | D-F79F                    |                   |           |          |           |          |       |        | ●    |       |        |           |          |          | 822  |          |
|  |                           |                  | D-F59F                    |                   |           |          |           |          |       |        | ●    |       |        |           |          |          |      | 823      |
| Water resistant 2-color indicator        | Direct                    | Grommet          | D-M9NA/M9PA/M9BA          |                   | ●         |          |           | ●        | ●     |        |      |       | ●      | ●         | ●        | ●        | 824  |          |
|  |                           |                  | D-M9NAV/M9PAV/M9BAV       |                   |           |          |           |          |       |        |      |       | ●      | ●         | ●        | ●        | 825  |          |
|  |                           |                  | D-Y7BA                    |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 826      |
|  | Rail                      | Grommet          | D-F7BA/F7BAV              |                   |           |          |           |          |       |        | ●    |       |        |           |          |          | 827  |          |
| Tie-rod                                  | Grommet                   | D-F5BA           |                           |                   |           |          |           |          |       |        |      |       |        |           |          | 828      |      |          |
| With timer                               | Rail                      | Grommet          | D-F7NT                    |                   |           |          |           |          |       |        | ●    |       |        |           |          |          | 829  |          |
|  | Tie-rod                   | Grommet          | D-F5NT                    |                   |           |          |           |          |       |        |      |       |        |           |          |          | 830  |          |
| Trimmer                                  | Direct                    | Grommet          | D-Y7K                     |                   |           |          |           |          |       |        |      |       |        |           |          |          | 831  |          |
| Reed Auto Switch                         | Direct                    | Grommet          | D-A90/A93/A96             |                   | ●         |          |           | ●        |       |        |      |       |        | ●         | ●        | ●        | ●    | 840      |
|  |                           |                  | D-A90V/A93V/A96V          |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 841      |
|  |                           |                  | D-90/97                   |                   |           | ●        |           |          |       |        |      | ●     |        |           |          |          |      | 842      |
|  |                           |                  | D-90A/93A                 |                   |           | ●        |           |          |       |        |      | ●     |        |           |          |          |      | 843      |
|  |                           | D-R731/R732      |                           |                   | ●         | ●        |           |          |       |        |      | ●     |        |           |          |          |      | 844      |
|  |                           | D-R801/R802      |                           |                   | ●         | ●        |           |          |       |        |      | ●     |        |           |          |          |      | 845      |
|  |                           | D-R731C/R732C    |                           |                   | ●         | ●        |           |          |       |        |      | ●     |        |           |          |          |      | 846      |
|  |                           | D-R801C/R802C    |                           |                   | ●         | ●        |           |          |       |        |      |       | ●      |           |          |          |      | 847      |
|  | Rail                      | Grommet          | D-A72/A73/A80             |                   |           |          |           |          |       |        | ●    |       |        |           |          |          |      | 848      |
|  |                           |                  | D-A72H/A73H               |                   |           |          |           |          |       |        |      | ●     |        |           |          |          |      | 849      |
|  |                           | D-A76H/A80H      |                           |                   |           |          |           |          |       |        | ●    |       |        |           |          |          |      | 850      |
|  |                           | Connector        | D-A73C/A80C               |                   |           |          |           |          |       |        |      | ●     |        |           |          |          |      | 851      |
|  | Grommet                   | D-A53/A54/A56    |                           |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 852      |
|  |                           | D-A64/A67        |                           |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 853      |
|  |                           | D-A79W           |                           |                   |           |          |           |          |       |        |      | ●     |        |           |          |          |      | 854      |
|  |                           | D-A59W           |                           |                   |           |          |           |          |       |        |      |       |        |           |          |          |      | 855      |

## Air Grippers Applicable Auto Switch Variations

[illegible]

# Solid State Auto Switch Direct Mounting Type D-M9N(V)/D-M9P(V)/D-M9B(V) C €

RoHS

Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-M9□, D-M9□V (With indicator light) |   |               |              |               |                       |               |
|--------------------------------------|---|---------------|--------------|---------------|-----------------------|---------------|
| Auto switch model                    | D-M9N   | D-M9NV        | D-M9P        | D-M9PV        | D-M9B                 | D-M9BV        |
| Electrical entry direction           | In-line                                       | Perpendicular | In-line      | Perpendicular | In-line               | Perpendicular |
| Wiring type                          | 3-wire  |               |              |               | 2-wire                |               |
| Output type                          | NPN   |               | PNP          |               | —                     |               |
| Applicable load                      | IC circuit, Relay, PLC                        |               |              |               | 24 VDC relay, PLC     |               |
| Power supply voltage                 | 5, 12, 24 VDC (4.5 to 28 V)                   |               |              |               |                       |               |
| Current consumption                  | 10 mA or less                                 |               |              |               | —                     |               |
| Load voltage                         | 28 VDC or less                                |               | —            |               | 24 VDC (10 to 28 VDC) |               |
| Load current                         | 40 mA or less                                 |               | 2.5 to 40 mA |               |                       |               |
| Internal voltage drop                | 0.8 V or less at 10 mA (2 V or less at 40 mA) |               |              |               | 4 V or less           |               |
| Leakage current                      | 100 μA or less at 24 VDC                      |               |              |               | 0.8 mA or less        |               |
| Indicator light                      | Red LED illuminates when turned ON.           |               |              |               |                       |               |
| Standard                             | CE marking, RoHS                              |               |              |               |                       |               |

## Oilproof Flexible Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-M9N(V)                   | D-M9P(V) | D-M9B(V)             |
|--|-----------------------------------|----------------------------|----------|----------------------|
| Sheath   | Outside diameter [mm]             | 2.6                        |          |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |          | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | 0.88                       |          |                      |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.15                       |          |                      |
|  | Strand diameter [mm]              | 0.05                       |          |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 17                         |          |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

## Weight

(g)

| Auto switch model |             | D-M9N(V) | D-M9P(V) | D-M9B(V) |
|-------------------|-------------|----------|----------|----------|
| Lead wire length  | 0.5 m (Nil) | 8        | 7        | 7        |
|                   | 1 m (M)     | 14       | 13       | 13       |
|                   | 3 m (L)     | 41       | 38       | 38       |
|                   | 5 m (Z)     | 68       | 63       | 63       |

## Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Using flexible cable as standard spec.



## Caution

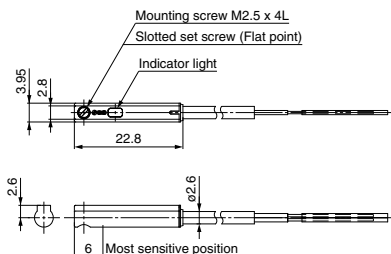
### Precautions

Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

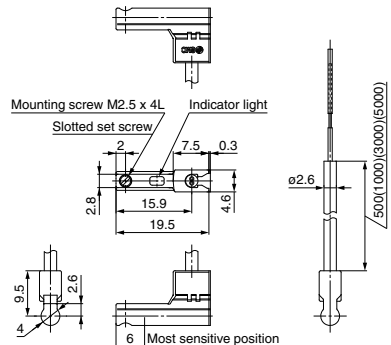
## Dimensions

(mm)

### D-M9□



### D-M9□V



# Solid State Auto Switch Direct Mounting Type D-F8N/D-F8P/D-F8B



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F8□ (With indicator light) |   |               |                          |
|------------------------------|---|---------------|--------------------------|
| Auto switch model            | D-F8N   | D-F8P         | D-F8B                    |
| Electrical entry direction   | Perpendicular   | Perpendicular | Perpendicular            |
| Wiring type                  | 3-wire  |               | 2-wire                   |
| Output type                  | NPN   | PNP           | —                        |
| Applicable load              | IC circuit, 24 VDC Relay, PLC                             |               | 24 VDC relay, PLC        |
| Power supply voltage         | 5, 12, 24 VDC (4.5 to 28 VDC)                             |               | —                        |
| Current consumption          | 10 mA or less   |               | —                        |
| Load voltage                 | 28 VDC or less  | —             | 24 VDC (10 to 28 VDC)    |
| Load current                 | 40 mA or less   | 80 mA or less | 2.5 to 40 mA             |
| Internal voltage drop        | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current) | 0.8 V or less | 4 V or less              |
| Leakage current              | 100 $\mu$ A or less at 24 VDC                             |               | 0.8 mA or less at 24 VDC |
| Indicator light              | Red LED illuminates when turned ON.                       |               |                          |
| Standard                     | CE marking, RoHS  |               |                          |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F8N                      | D-F8P | D-F8B                |
|--|-----------------------------------|----------------------------|-------|----------------------|
| Sheath   | Outside diameter [mm]             | $\phi$ 2.7                 |       |                      |
|  | Number of cores                   | 3 cores (Brown/Blue/Black) |       | 2 cores (Brown/Blue) |
| Conductor                                      | Outside diameter [mm]             | $\phi$ 0.91                |       | $\phi$ 0.96          |
|  | Effective area [mm <sup>2</sup> ] | 0.15                       |       | 0.18                 |
|  | Strand diameter [mm]              | $\phi$ 0.08                |       |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 17                         |       |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

## Weight

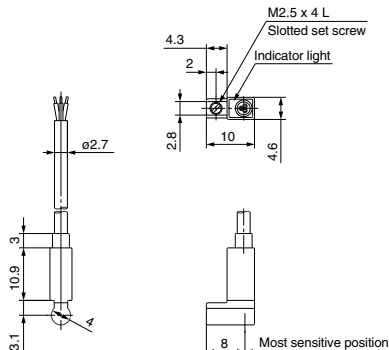
(g)

| Auto switch model |             | D-F8N | D-F8P | D-F8B |
|-------------------|-------------|-------|-------|-------|
| Lead wire length  | 0.5 m (NII) | 7     |       |       |
|                   | 3 m (L)     | 32    |       |       |
|                   | 5 m (Z)     | 52    |       |       |

## Dimensions

(mm)

### D-F8N/D-F8P/D-F8B



D-□

# Solid State Auto Switch Direct Mounting Type D-Y59<sup>A</sup>/<sub>B</sub>/D-Y69<sup>A</sup>/<sub>B</sub>/D-Y7P(V)



RoHS

Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-Y5□, D-Y6□, D-Y7P, D-Y7PV (With indicator light) |   |               |               |               |                          |               |
|--|---|---------------|---------------|---------------|--------------------------|---------------|
| Auto switch model                                  | D-Y59A  | D-Y69A        | D-Y7P         | D-Y7PV        | D-Y59B                   | D-Y69B        |
| Electrical entry direction                         | In-line   | Perpendicular | In-line       | Perpendicular | In-line                  | Perpendicular |
| Wiring type  | 3-wire  |               |               |               | 2-wire                   |               |
| Output type  | NPN   |               | PNP           |               | —                        |               |
| Applicable load                                    | IC circuit, Relay, PLC                                    |               |               |               | 24 VDC relay, PLC        |               |
| Power supply voltage                               | 5, 12, 24 VDC (4.5 to 28 VDC)                             |               |               |               | —                        |               |
| Current consumption                                | 10 mA or less   |               |               |               | —                        |               |
| Load voltage                                       | 28 VDC or less  |               | —             |               | 24 VDC (10 to 28 VDC)    |               |
| Load current                                       | 40 mA or less   |               | 80 mA or less |               | 2.5 to 40 mA             |               |
| Internal voltage drop                              | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current) |               | 0.8 V or less |               | 4 V or less              |               |
|  | 100 μA or less at 24 VDC                                  |               |               |               | 0.8 mA or less at 24 VDC |               |
| Leakage current                                    | 100 μA or less at 24 VDC                                  |               |               |               | 0.8 mA or less at 24 VDC |               |
| Indicator light                                    | Red LED illuminates when turned ON.                       |               |               |               |                          |               |
| Standard   | CE marking, RoHS  |               |               |               |                          |               |

**Grommet**  
Using flexible cable as standard spec.



## Oilproof Flexible Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-Y□9A                     | D-Y7P□ | D-Y□9B               |
|--|-----------------------------------|----------------------------|--------|----------------------|
| Sheath   | Outside diameter [mm]             | ø3.4                       |        |                      |
|  | Number of cores                   | 3 cores (Brown/Blue/Black) |        | 2 cores (Brown/Blue) |
| Conductor                                      | Outside diameter [mm]             | ø1.0                       |        |                      |
|  | Effective area [mm <sup>2</sup> ] | 0.15                       |        |                      |
|  | Strand diameter [mm]              | ø0.05                      |        |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 21                         |        |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.  
Note 2) Refer to page 800 for lead wire lengths.

## Weight

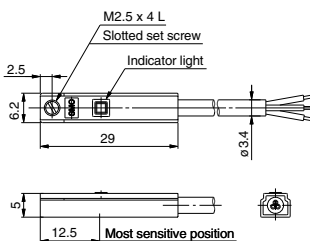
(g)

| Auto switch model |             | D-Y59A | D-Y69A | D-Y7P(V) | D-Y59B | D-Y69B |
|-------------------|-------------|--------|--------|----------|--------|--------|
| Lead wire length  | 0.5 m (NII) | 10     |        | 9        |        |        |
|                   | 3 m (L)     | 53     |        | 50       |        |        |
|                   | 5 m (Z)     | 87     |        | 83       |        |        |

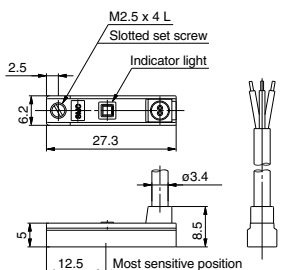
## Dimensions

(mm)

### D-Y59A/D-Y7P/D-Y59B



### D-Y69A/D-Y7PV/D-Y69B



# Solid State Auto Switch Direct Mounting Type D-S99(V)/D-S9P(V)/D-T99(V)

Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-S99(V)/D-S9P(V)/D-T99(V) (With indicator light) |  |                    |                  |                          |                  |                    |
|---|--|--------------------|------------------|--------------------------|------------------|--------------------|
| Auto switch model                                 | D-S991<br>D-S992                                       | D-S99V1<br>D-S99V2 | D-S9P1<br>D-S9P2 | D-S9PV1<br>D-S9PV2       | D-T991<br>D-T992 | D-T99V1<br>D-T99V2 |
| Electrical entry direction                        | In-line  | Perpendicular      | In-line          | Perpendicular            | In-line          | Perpendicular      |
| Wiring type                                       | 3-wire   |                    |                  | 2-wire                   |                  |                    |
| Output type                                       | NPN  |                    |                  | PNP                      |                  |                    |
| Applicable load                                   | IC circuit, Relay, PLC                                 |                    |                  | 24 VDC relay, PLC        |                  |                    |
| Power supply voltage                              | 5, 12, 24 VDC (4.5 to 28 VDC)                          |                    |                  | —                        |                  |                    |
| Current consumption                               | 10 mA or less  |                    |                  | —                        |                  |                    |
| Load voltage                                      | 28 VDC or less   |                    |                  | 24 VDC (10 to 28 VDC)    |                  |                    |
| Load current                                      | 40 mA or less  |                    |                  | 80 mA or less            |                  |                    |
| Internal voltage drop                             | 1.5 V or less<br>(0.8 V or less at load current 10 mA) |                    |                  | 0.8 V or less            |                  |                    |
| Leakage current                                   | 100 $\mu$ A or less at 24 VDC                          |                    |                  | 0.8 mA or less at 24 VDC |                  |                    |
| Indicator light                                   | Red LED illuminates when turned ON.                    |                    |                  | —                        |                  |                    |
| Standard  | —  |                    |                  | CE marking               |                  |                    |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model | D-S99□   | D-S9P□                     | D-T99□               |
|-------------------|--|----------------------------|----------------------|
| Sheath            | Outside diameter (mm)                          | $\phi$ 3.4                 |                      |
| Insulator         | Number of cores                                | 3 cores (Brown/Blue/Black) | 2 cores (Brown/Blue) |
| Conductor         | Outside diameter (mm)                          | $\phi$ 1.1                 |                      |
|                   | Effective area (mm <sup>2</sup> )              | 0.2                        |                      |
|                   | Strand diameter (mm)                           | $\phi$ 0.08                |                      |
|                   | Minimum bending radius (mm) (Reference values) | 21                         |                      |

## Weight

(g)

| Auto switch model | D-S99□      | D-S99V□ | D-S9P□ | D-S9PV□ | D-T99□ | D-T99V□ |
|-------------------|-------------|---------|--------|---------|--------|---------|
| Lead wire length  | 0.5 m (Nil) | 12      | 12     | 12      | 12     | 12      |
|                   | 3 m (L)     | 49      | 46     | 46      | 46     | 46      |
|                   | 5 m (Z)     | 79      | 79     | 79      | 79     | 79      |

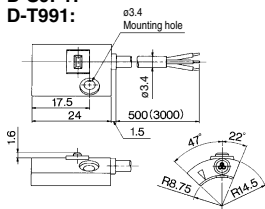
## Dimensions

(mm)

### D-S991: Right-hand mounting

### D-S9P1:

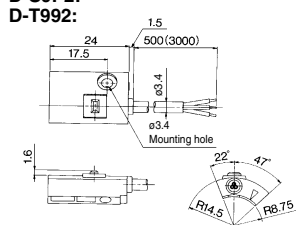
### D-T991:



### D-S992: Left-hand mounting

### D-S9P2:

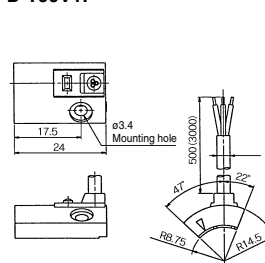
### D-T992:



### D-S99V1: Right-hand mounting

### D-S9PV1:

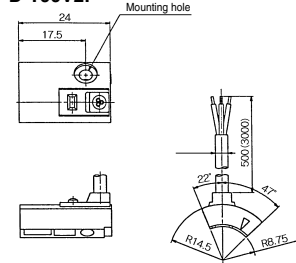
### D-T99V1:



### D-S99V2: Left-hand mounting

### D-S9PV2:

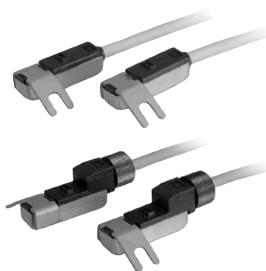
### D-T99V2:



D-□

CE

### Grommet, Connector Electrical Entry: In-line



### Left-hand mounting

### Right-hand mounting

### Caution

## Precautions

1. Confirm that the connector is appropriately tightened. If tightened insufficiently, the waterproof performance will deteriorate.
2. Refer to Best Pneumatics No. 2-1 for the details.

### Lead wires with a connector indication

**Part No. of Lead Wires with Connectors**  
(Applicable only for connector type)

| Model  | Lead wire length |
|--------|------------------|
| D-LC05 | 0.5 m            |
| D-LC30 | 3 m              |
| D-LC50 | 5 m              |

PLC: Programmable Logic Controller

| D-S79/D-T79 (With indicator light) |   |                |                                  |
|------------------------------------|---|----------------|----------------------------------|
| Auto switch model                  | D-S791, D-S792                            | D-S7P1, D-S7P2 | D-T791, D-T792, D-T791C, D-T792C |
| Wiring type                        | 3-wire                                    |                | 2-wire                           |
| Output type                        | NPN                                       | PNP            | —                                |
| Applicable load                    | IC circuit, Relay, PLC                    |                | 24 VDC relay, PLC                |
| Power supply voltage               | 5, 12, 24 VDC (4.5 to 28 VDC)             |                | —                                |
| Current consumption                | 10 mA or less                             |                | —                                |
| Load voltage                       | 28 VDC or less                            | —              | 24 VDC (10 to 28 VDC)            |
| Load current                       | 40 mA or less                             | 80 mA or less  | 5 to 40 mA                       |
| Internal voltage drop              | 1.5 V or less<br>(0.8 V or less at 10 mA) | 0.8 V or less  | 4 V or less                      |
| Leakage current                    | 100 $\mu$ A or less at 24 VDC             |                | 0.8 mA or less at 24 VDC         |
| Indicator light                    | Red LED illuminates when turned ON.       |                |                                  |
| Standard                           | CE marking                                |                |                                  |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-S79□                     | D-S7P□ | D-T79□               |
|--|-----------------------------------|----------------------------|--------|----------------------|
| Sheath   | Outside diameter (mm)             | ø34                        |        |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |        | 2 cores (Brown/Blue) |
|  | Outside diameter (mm)             | ø1.1                       |        |                      |
| Conductor                                      | Effective area (mm <sup>2</sup> ) | 0.2                        |        |                      |
|  | Strand diameter (mm)              | ø0.08                      |        |                      |
| Minimum bending radius (mm) (Reference values) |                                   | 21                         |        |                      |

## Weight

(g)

| Auto switch model |             | D-S79□ | D-S7P□ | D-T79□ | D-T79□C |
|-------------------|-------------|--------|--------|--------|---------|
| Lead wire length  | 0.5 m (Nil) | 13     | 13     | 13     | 14      |
|                   | 3 m (L)     | 50     | 50     | 50     | 51      |
|                   | 5 m (Z)     | 80     | 80     | 80     | 81      |

## Dimensions

(mm)

### D-S791: Right-hand mounting

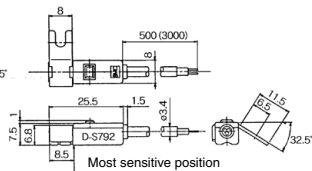
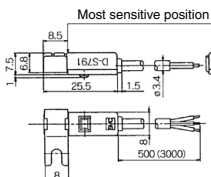
**D-S7P1:**

**D-T791:**

### D-S792: Left-hand mounting

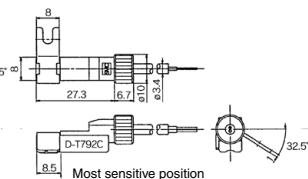
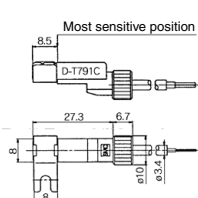
**D-S7P2:**

**D-T792:**



### D-T791C: Right-hand mounting

### D-T792C: Left-hand mounting



# Solid State Auto Switch Rail Mounting Type D-F79/D-F7P/D-J79



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F7□, D-J79 (With indicator light) |   |               |                          |
|-------------------------------------|---|---------------|--------------------------|
| Auto switch model                   | D-F79   | D-F7P         | D-J79                    |
| Wiring type                         | 3-wire  |               | 2-wire                   |
| Output type                         | NPN   | PNP           | —                        |
| Applicable load                     | IC circuit, Relay, PLC                                    |               | 24 VDC Relay, PLC        |
| Power supply voltage                | 5, 12, 24 VDC (4.5 to 28 VDC)                             |               | —                        |
| Current consumption                 | 10 mA or less   |               | —                        |
| Load voltage                        | 28 VDC or less  | —             | 24 VDC (10 to 28 VDC)    |
| Load current                        | 40 mA or less   | 80 mA or less | 5 to 40 mA               |
| Internal voltage drop               | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current) | 0.8 V or less | 4 V or less              |
| Leakage current                     | 100 $\mu$ A or less at 24 VDC                             |               | 0.8 mA or less at 24 VDC |
| Indicator light                     | Red LED illuminates when turned ON.                       |               |                          |
| Standard                            | CE marking, RoHS  |               |                          |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F79                      | D-F7P | D-J79                |
|--|-----------------------------------|----------------------------|-------|----------------------|
| Sheath   | Outside diameter [mm]             | $\phi$ 3.4                 |       |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |       | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | $\phi$ 1.1                 |       |                      |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.2                        |       |                      |
|  | Strand diameter [mm]              | $\phi$ 0.08                |       |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 21                         |       |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

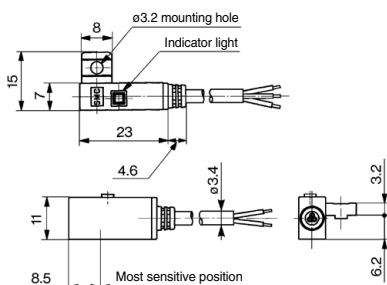
## Weight

(g)

| Auto switch model |             | D-F79 | D-F7P | D-J79 |
|-------------------|-------------|-------|-------|-------|
| Lead wire length  | 0.5 m (Nil) | 13    |       | 11    |
|                   | 3 m (L)     | 57    |       | 50    |
|                   | 5 m (Z)     | 92    |       | 81    |

## Dimensions

(mm)



D-□



# Solid State Auto Switch Rail Mounting Type

## D-F7NV/D-F7PV/D-F7BV



RoHS

Refer to SMC website for the details of the products conforming to the international standards.

### Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F7□V (With indicator light) |   |               |                          |
|-------------------------------|---|---------------|--------------------------|
| Auto switch model             | D-F7NV  | D-F7PV        | D-F7BV                   |
| Wiring type                   | 3-wire  |               | 2-wire                   |
| Output type                   | NPN   | PNP           | —                        |
| Applicable load               | IC circuit, Relay, PLC                                    |               | 24 VDC Relay, PLC        |
| Power supply voltage          | 5, 12, 24 VDC (4.5 to 28 VDC)                             |               | —                        |
| Current consumption           | 10 mA or less   |               | —                        |
| Load voltage                  | 28 VDC or less  | —             | 24 VDC (10 to 28 VDC)    |
| Load current                  | 40 mA or less   | 80 mA or less | 5 to 40 mA               |
| Internal voltage drop         | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current) | 0.8 V or less | 4 V or less              |
| Leakage current               | 100 $\mu$ A or less at 24 VDC                             |               | 0.8 mA or less at 24 VDC |
| Indicator light               | Red LED illuminates when turned ON.                       |               |                          |
| Standard                      | CE marking, RoHS  |               |                          |

### Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F7NV                     | D-F7PV | D-F7BV               |
|--|-----------------------------------|----------------------------|--------|----------------------|
| Sheath   | Outside diameter [mm]             | $\phi$ 3.4                 |        |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |        | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | $\phi$ 1.1                 |        |                      |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.2                        |        |                      |
|  | Strand diameter [mm]              | $\phi$ 0.08                |        |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 21                         |        |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

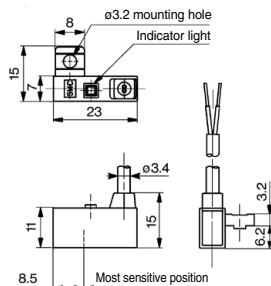
### Weight

(g)

| Auto switch model |             | D-F7NV | D-F7PV | D-F7BV |
|-------------------|-------------|--------|--------|--------|
| Lead wire length  | 0.5 m (Nil) | 13     |        | 11     |
|                   | 3 m (L)     | 57     |        | 50     |
|                   | 5 m (Z)     | 92     |        | 81     |

### Dimensions

(mm)



# Solid State Auto Switch Rail Mounting Type D-J79C



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-J79C (With indicator light) |                                     |
|-------------------------------|-------------------------------------|
| Auto switch model             | D-J79C                              |
| Wiring type                   | 2-wire                              |
| Output type                   | —                                   |
| Applicable load               | 24 VDC Relay, PLC                   |
| Power supply voltage          | —                                   |
| Current consumption           | —                                   |
| Load voltage                  | 24 VDC (10 to 28 VDC)               |
| Load current                  | 5 to 40 mA                          |
| Internal voltage drop         | 4 V or less                         |
| Leakage current               | 0.8 mA or less at 24 VDC            |
| Indicator light               | Red LED illuminates when turned ON. |
| Standard                      | CE marking, RoHS                    |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Lead wires with a connector may be shipped with auto switches.

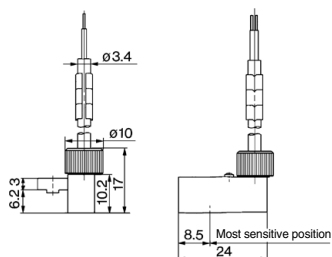
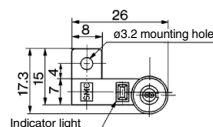
## Weight

(g)

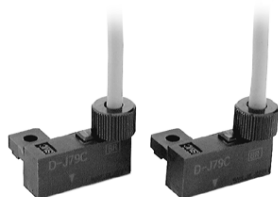
| Auto switch model |             | D-J79C |
|-------------------|-------------|--------|
| Lead wire length  | 0.5 m (Nil) | 13     |
|                   | 3 m (L)     | 52     |
|                   | 5 m (Z)     | 83     |

## Dimensions

(mm)



## Connector



## Caution

### Precautions

1. Confirm that the connector is appropriately tightened. If tightened insufficiently, the waterproof performance will deteriorate.
2. Refer to Best Pneumatics No. 2-1 for the details.

### Lead wires with a connector indication

### Part No. of Lead Wires with Connectors (Applicable only for connector type)

| Model  | Lead wire length |
|--------|------------------|
| D-LC05 | 0.5 m            |
| D-LC30 | 3 m              |
| D-LC50 | 5 m              |

D-□

# Solid State Auto Switch Tie-rod Mounting Type D-F59/D-F5P/D-J59



Refer to SMC website for the details of the products conforming to the international standards.  
(Except D-J51)

## Grommet



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F5□, D-J5□ (With indicator light) |   |               |                             |
|-------------------------------------|---|---------------|-----------------------------|
| Auto switch model                   | D-F59   | D-F5P         | D-J59                       |
| Wiring type                         | 3-wire  |               | 2-wire                      |
| Output type                         | NPN   | PNP           | —                           |
| Applicable load                     | IC circuit, Relay, PLC                                    |               | 24 VDC Relay, PLC           |
| Power supply voltage                | 5, 12, 24 VDC (4.5 to 28 VDC)                             |               | —                           |
| Current consumption                 | 10 mA or less   |               | —                           |
| Load voltage                        | 28 VDC or less  | —             | 24 VDC (10 to 28 VDC)       |
| Load current                        | 40 mA or less   | 80 mA or less | 5 to 40 mA                  |
| Internal voltage drop               | 1.5 V or less<br>(0.8 V or less at<br>10 mA load current) | 0.8 V or less | 4 V or less                 |
| Leakage current                     | 100 μA or less at 24 VDC                                  |               | 0.8 mA or less<br>at 24 VDC |
| Indicator light                     | Red LED illuminates when turned ON.                       |               |                             |
| Standard                            | CE marking, RoHS  |               |                             |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F59                      | D-F5P | D-J59                |
|--|-----------------------------------|----------------------------|-------|----------------------|
| Sheath   | Outside diameter [mm]             | ø4                         |       |                      |
|  | Number of cores                   | 3 cores (Brown/Blue/Black) |       | 2 cores (Brown/Blue) |
| Conductor                                      | Outside diameter [mm]             | ø1.22                      |       |                      |
|  | Effective area [mm <sup>2</sup> ] | 0.3                        |       |                      |
|  | Strand diameter [mm]              | ø0.08                      |       |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 24                         |       |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.  
Note 2) Refer to page 800 for lead wire lengths.

## Weight

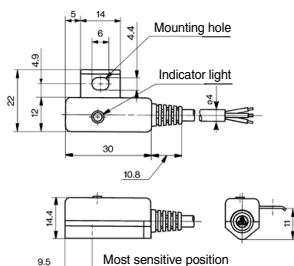
(g)

| Auto switch model |             | D-F59 | D-F5P | D-J59 |
|-------------------|-------------|-------|-------|-------|
| Lead wire length  | 0.5 m (Nil) | 23    |       | 21    |
|                   | 3 m (L)     | 81    |       | 71    |
|                   | 5 m (Z)     | 127   |       | 111   |

## Dimensions

(mm)

### D-F59/D-F5P/D-J59



# 2-Color Indicator Solid State Auto Switch Direct Mounting Type

## D-M9NW(V)/D-M9PW(V)/D-M9BW(V)



RoHS

Refer to SMC website for the details of the products conforming to the international standards.

### Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Using flexible cable as standard spec.
- The proper operating range can be determined by the color of the light. (Red → Green ← Red)



### Caution

#### Precautions

Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

### Auto Switch Specifications

PLC: Programmable Logic Controller

| D-M9□W, D-M9□WV (With indicator light) |   |               |         |               |                       |               |
|--|---|---------------|---------|---------------|-----------------------|---------------|
| Auto switch model                      | D-M9NW  | D-M9NWV       | D-M9PW  | D-M9PWV       | D-M9BW                | D-M9BWV       |
| Electrical entry direction             | In-line   | Perpendicular | In-line | Perpendicular | In-line               | Perpendicular |
| Wiring type                            | 3-wire  |               |         | 2-wire        |                       |               |
| Output type                            | NPN   |               | PNP     |               | —                     |               |
| Applicable load                        | IC circuit, Relay, PLC  |               |         |               | 24 VDC relay, PLC     |               |
| Power supply voltage                   | 5, 12, 24 VDC (4.5 to 28 V)   |               |         |               | —                     |               |
| Current consumption                    | 10 mA or less   |               |         |               | —                     |               |
| Load voltage                           | 28 VDC or less  |               | —       |               | 24 VDC (10 to 28 VDC) |               |
| Load current                           | 40 mA or less   |               |         |               | 2.5 to 40 mA          |               |
| Internal voltage drop                  | 0.8 V or less at 10 mA (2 V or less at 40 mA)   |               |         |               | 4 V or less           |               |
| Leakage current                        | 100 μA or less at 24 VDC  |               |         |               | 0.8 mA or less        |               |
| Indicator light                        | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |               |         |               |                       |               |
| Standard                               | CE marking, RoHS  |               |         |               |                       |               |

### Oilproof Flexible Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-M9NW(V)                  | D-M9PW(V) | D-M9BW(V)            |
|--|-----------------------------------|----------------------------|-----------|----------------------|
| Sheath   | Outside diameter [mm]             | 2.7 x 3.2 (ellipse)        |           |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |           | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | 0.88                       |           |                      |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.15                       |           |                      |
|  | Strand diameter [mm]              | 0.05                       |           |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 17                         |           |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

### Weight

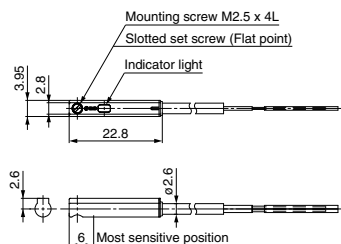
(g)

| Auto switch model |             | D-M9NW(V) | D-M9PW(V) | D-M9BW(V) |
|-------------------|-------------|-----------|-----------|-----------|
| Lead wire length  | 0.5 m (Nil) | 8         | 7         | 7         |
|                   | 1 m (M)     | 14        | 13        | 13        |
|                   | 3 m (L)     | 41        | 38        | 38        |
|                   | 5 m (Z)     | 68        | 63        | 63        |

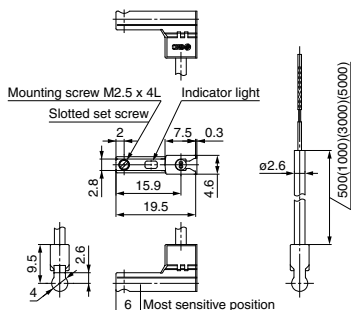
### Dimensions

(mm)

D-M9□W



D-M9□WV



# 2-Color Indicator Solid State Auto Switch Direct Mounting Type

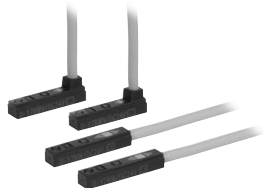
## D-Y7NW(V)/D-Y7PW(V)/D-Y7BW(V)



Refer to SMC website for the details of the products conforming to the international standards.

### Grommet

- The proper operating range can be determined by the color of the light.  
(Red → Green ← Red)
- Using flexible cable as standard spec.



### Auto Switch Specifications

PLC: Programmable Logic Controller

| D-Y7□W, D-Y7□WV (With indicator light) |   |               |               |               |                          |               |
|--|---|---------------|---------------|---------------|--------------------------|---------------|
| Auto switch model                      | D-Y7NW  | D-Y7NWV       | D-Y7PW        | D-Y7PWV       | D-Y7BW                   | D-Y7BWV       |
| Electrical entry direction             | In-line   | Perpendicular | In-line       | Perpendicular | In-line                  | Perpendicular |
| Wiring type                            | 3-wire  |               |               |               | 2-wire                   |               |
| Output type                            | NPN   |               | PNP           |               | —                        |               |
| Applicable load                        | IC circuit, Relay, PLC  |               |               |               | 24 VDC relay, PLC        |               |
| Power supply voltage                   | 5, 12, 24 VDC (4.5 to 28 VDC)   |               |               |               | —                        |               |
| Current consumption                    | 10 mA or less   |               |               |               | —                        |               |
| Load voltage                           | 28 VDC or less  |               | —             |               | 24 VDC (10 to 28 VDC)    |               |
| Load current                           | 40 mA or less   |               | 80 mA or less |               | 2.5 to 40 mA             |               |
| Internal voltage drop                  | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current)   |               | 0.8 V or less |               | 4 V or less              |               |
| Leakage current                        | 100 μA or less at 24 VDC  |               |               |               | 0.8 mA or less at 24 VDC |               |
| Indicator light                        | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |               |               |               |                          |               |
| Standard                               | CE marking, RoHS  |               |               |               |                          |               |

### Oilproof Flexible Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-Y7NW□                    | D-Y7PW□ | D-Y7BW□              |
|--|-----------------------------------|----------------------------|---------|----------------------|
| Sheath   | Outside diameter [mm]             | ø3.4                       |         |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |         | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | ø1.0                       |         |                      |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.15                       |         |                      |
|  | Strand diameter [mm]              | ø0.05                      |         |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 21                         |         |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

### Weight

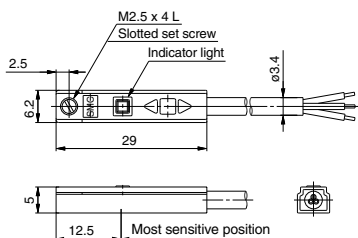
(g)

| Auto switch model |             | D-Y7NW(V) | D-Y7PW(V) | D-Y7BW(V) |
|-------------------|-------------|-----------|-----------|-----------|
| Lead wire length  | 0.5 m (Nil) | 11        |           |           |
|                   | 3 m (L)     | 54        |           |           |
|                   | 5 m (Z)     | 88        |           |           |

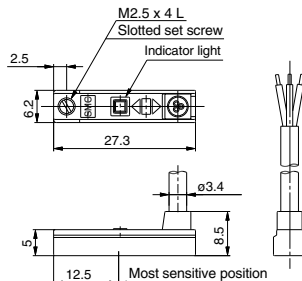
### Dimensions

(mm)

#### D-Y7□W



#### D-Y7□WV



# 2-Color Indicator Solid State Auto Switch Rail Mounting Type

## D-F79W/D-F7PW/D-J79W



RoHS

Refer to SMC website for the details of the products conforming to the international standards.

### Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F79W, D-J79W (With indicator light) |   |               |                          |
|---------------------------------------|---|---------------|--------------------------|
| Auto switch model                     | D-F79W  | D-F7PW        | D-J79W                   |
| Wiring type                           | 3-wire  |               | 2-wire                   |
| Output type                           | NPN   | PNP           | —                        |
| Applicable load                       | IC circuit, Relay, PLC  |               | 24 VDC Relay, PLC        |
| Power supply voltage                  | 5, 12, 24 VDC (4.5 to 28 VDC)   |               | —                        |
| Current consumption                   | 10 mA or less   |               | —                        |
| Load voltage                          | 28 VDC or less  | —             | 24 VDC (10 to 28 VDC)    |
| Load current                          | 40 mA or less   | 80 mA or less | 5 to 40 mA               |
| Internal voltage drop                 | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current)   | 0.8 V or less | 4 V or less              |
| Leakage current                       | 100 $\mu$ A or less at 24 VDC   |               | 0.8 mA or less at 24 VDC |
| Indicator light                       | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |               |                          |
| Standard                              | CE marking, RoHS  |               |                          |

### Grommet

The proper operating range can be determined by the color of the light.

(Red → Green ← Red)



### Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F79W                     | D-F7PW | D-J79W               |
|--|-----------------------------------|----------------------------|--------|----------------------|
| Sheath   | Outside diameter [mm]             | $\phi$ 3.4                 |        |                      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |        | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | $\phi$ 1.1                 |        |                      |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.2                        |        |                      |
|  | Strand diameter [mm]              | $\phi$ 0.08                |        |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 21                         |        |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

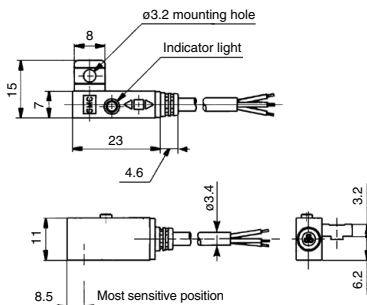
### Weight

(g)

| Auto switch model |             | D-F79W | D-F7PW | D-J79W |
|-------------------|-------------|--------|--------|--------|
| Lead wire length  | 0.5 m (Nil) | 13     |        | 11     |
|                   | 3 m (L)     | 57     |        | 50     |
|                   | 5 m (Z)     | 92     |        | 81     |

### Dimensions

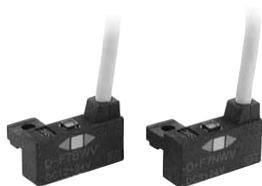
(mm)



CE RoHS

**Grommet**  
**Electrical entry: Perpendicular**

(Red  $\rightarrow$  Green  $\leftarrow$  Red)

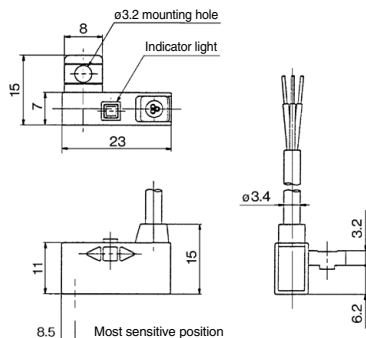


PLC: Programmable Logic Controller

## Oilproof Heavy-duty Lead Wire Specifications

Note 1) Refer to page 800 for solid state auto switch common specifications.  
Note 2) Refer to page 800 for lead wire lengths.

(g)

(mm)

# 2-Color Indicator Solid State Auto Switch Tie-rod Mounting Type D-F59W/D-F5PW/D-J59W



RoHS

Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F5□W, D-J59W (With indicator light) |   |               |                          |
|---------------------------------------|---|---------------|--------------------------|
| Auto switch model                     | D-F59W  | D-F5PW        | D-J59W                   |
| Wiring type                           | 3-wire  |               | 2-wire                   |
| Output type                           | NPN   | PNP           | —                        |
| Applicable load                       | IC circuit, Relay, PLC  |               | 24 VDC Relay, PLC        |
| Power supply voltage                  | 5, 12, 24 VDC (4.5 to 28 VDC)   |               | —                        |
| Current consumption                   | 10 mA or less   |               | —                        |
| Load voltage                          | 28 VDC or less  | —             | 24 VDC (10 to 28 VDC)    |
| Load current                          | 40 mA or less   | 80 mA or less | 5 to 40 mA               |
| Internal voltage drop                 | 1.5 V or less<br>(0.8 V or less<br>at 10 mA load current)   | 0.8 V or less | 4 V or less              |
| Leakage current                       | 100 $\mu$ A or less at 24 VDC   |               | 0.8 mA or less at 24 VDC |
| Indicator light                       | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |               |                          |
| Standard                              | CE marking, RoHS  |               |                          |

## Grommet

The proper operating range can be determined by the color of the light.

(Red → Green ← Red)



## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F59W                     | D-F5PW | D-J59W               |
|--|-----------------------------------|----------------------------|--------|----------------------|
| Sheath   | Outside diameter [mm]             | $\phi 4$                   |        |                      |
|  | Number of cores                   | 3 cores (Brown/Blue/Black) |        | 2 cores (Brown/Blue) |
| Conductor                                      | Outside diameter [mm]             | $\phi 1.22$                |        |                      |
|  | Effective area [mm <sup>2</sup> ] | 0.3                        |        |                      |
|  | Strand diameter [mm]              | $\phi 0.08$                |        |                      |
| Minimum bending radius [mm] (Reference values) |                                   | 24                         |        |                      |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

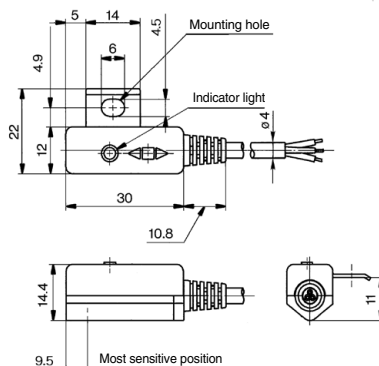
## Weight

(g)

| Auto switch model |             | D-F59W | D-F5PW | D-J59W |
|-------------------|-------------|--------|--------|--------|
| Lead wire length  | 0.5 m (Nil) | 23     |        | 21     |
|                   | 3 m (L)     | 81     |        | 71     |
|                   | 5 m (Z)     | 127    |        | 111    |

## Dimensions

(mm)



D-□



# 2-Color Indicator with Diagnostic Output Solid State Auto Switch: Rail Mounting Type D-F79F



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

Since the diagnostic output signal can be detected in the red display area, the difference of detecting position can be confirmed by the side of PLC (Programmable Logic Controller).



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F79F (With indicator light) |   |
|-------------------------------|---|
| Auto switch model             | D-F79F  |
| Wiring type                   | 4-wire  |
| Output type                   | NPN   |
| Diagnostic output             | Normal operation  |
| Applicable load               | IC circuit, Relay, PLC  |
| Power supply voltage          | 5, 12, 24 VDC (4.5 to 28 VDC)   |
| Current consumption           | 10 mA or less   |
| Load voltage                  | 28 VDC or less  |
| Load current                  | 50 mA or less at the total amount of normal output and diagnostic output                          |
| Internal voltage drop         | 1.5 V or less (0.8 V or less at 5 mA)   |
| Leakage current               | 100 $\mu$ A or less at 24 VDC   |
| Indicator light               | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |
| Standard                      | CE marking, RoHS  |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-F79F                            |
|-------------------|--|-----------------------------------|
| Sheath            | Outside diameter [mm]                          | $\phi$ 3.4                        |
|                   | Number of cores                                | 4 cores (Brown/Blue/Black/Orange) |
| Insulator         | Outside diameter [mm]                          | $\phi$ 0.98                       |
|                   | Effective area [mm <sup>2</sup> ]              | 0.2                               |
| Conductor         | Strand diameter [mm]                           | $\phi$ 0.08                       |
|                   | Minimum bending radius [mm] (Reference values) | 21                                |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

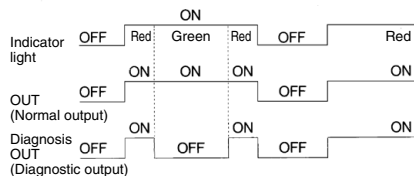
## Weight

(g)

| Auto switch model |             | D-F79F |
|-------------------|-------------|--------|
| Lead wire length  | 0.5 m (Nil) | 13     |
|                   | 3 m (L)     | 56     |
|                   | 5 m (Z)     | 90     |

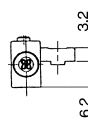
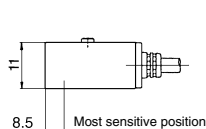
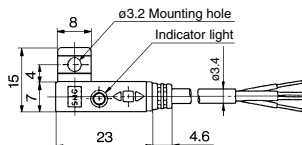
## Diagnostic Output Operation

The diagnostic output signal is output within the red display area (where indicator light is Red), and it is not output within the proper operating range (where indicator light is Green). When the auto switch detecting position is not adjusted, the diagnostic output becomes activated.



## Dimensions

(mm)



# 2-Color Indicator with Diagnostic Output Solid State Auto Switch: Tie-rod Mounting Type D-F59F



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

Since the diagnostic output signal can be detected in the red display area, the difference of detecting position can be confirmed by the side of PLC (Programmable Logic Controller).



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F59F (With indicator light) |   |
|-------------------------------|---|
| Auto switch model             | D-F59F  |
| Wiring type                   | 4-wire  |
| Output type                   | NPN   |
| Diagnostic output             | Normal operation  |
| Applicable load               | IC circuit, Relay, PLC  |
| Power supply voltage          | 5, 12, 24 VDC (4.5 to 28 VDC)   |
| Current consumption           | 10 mA or less   |
| Load voltage                  | 28 VDC or less  |
| Load current                  | 50 mA or less at the total amount of normal output and diagnostic output                          |
| Internal voltage drop         | 1.5 V or less (0.8 V or less at 5 mA)   |
| Leakage current               | 100 $\mu$ A or less at 28 VDC   |
| Indicator light               | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |
| Standard                      | CE marking, RoHS  |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-F59F                            |
|-------------------|--|-----------------------------------|
| Sheath            | Outside diameter [mm]                          | $\phi$ 4                          |
|                   | Number of cores                                | 4 cores (Brown/Blue/Black/Orange) |
| Insulator         | Outside diameter [mm]                          | $\phi$ 1.29                       |
|                   | Effective area [mm <sup>2</sup> ]              | 0.3                               |
| Conductor         | Strand diameter [mm]                           | $\phi$ 0.08                       |
|                   | Minimum bending radius [mm] (Reference values) | 24                                |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

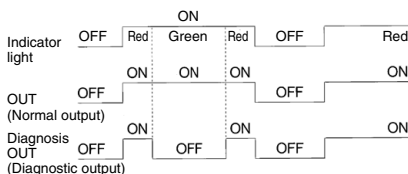
## Weight

(g)

| Auto switch model |             | D-F59F |
|-------------------|-------------|--------|
| Lead wire length  | 0.5 m (Nil) | 22     |
|                   | 3 m (L)     | 77     |
|                   | 5 m (Z)     | 121    |

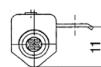
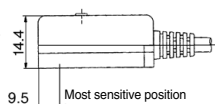
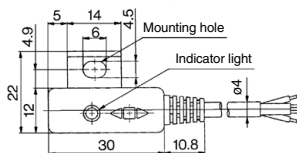
## Diagnostic Output Operation

The diagnostic output signal is output within the red display area (where indicator light is Red), and it is not output within the proper operating range (where indicator light is Green). When the auto switch detecting position is not adjusted, the diagnostic output becomes activated.



## Dimensions

(mm)



# Water Resistant 2-Color Indicator Solid State Auto Switch: Direct Mounting Type D-M9NA(V)/D-M9PA(V)/D-M9BA(V)

## Grommet

- Water (coolant) resistant type
- 2-wire load current is reduced (2.5 to 40 mA).
- The proper operating range can be determined by the color of the light. (Red → Green ← Red)
- Using flexible cable as standard spec.



## ⚠ Caution

### Precautions

Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.  
Please consult with SMC if using coolant liquid other than water based solution.

## Weight

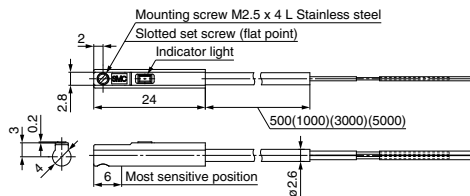
(g)

| Auto switch model | D-M9NA(V) | D-M9PA(V) | D-M9BA(V) |
|-------------------|-----------|-----------|-----------|
| Lead wire length  |           |           |           |
| 0.5 m (Nil)       | 8         | 7         |           |
| 1 m (M)           | 14        | 13        |           |
| 3 m (L)           | 41        | 38        |           |
| 5 m (Z)           | 68        | 63        |           |

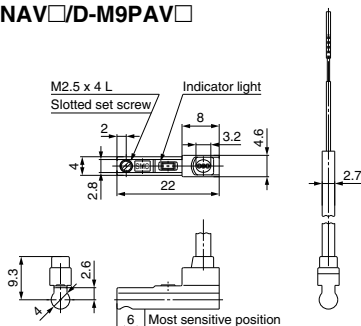
## Dimensions

(mm)

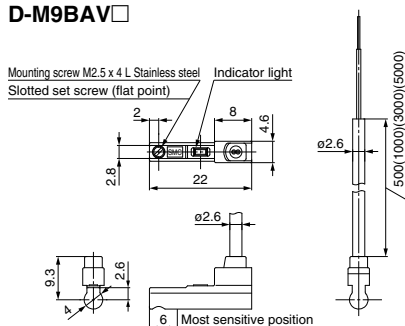
### D-M9□A



### D-M9NAV□/D-M9PAV□



### D-M9BAV□



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-M9□A, D-M9□AV (With indicator light) |   |  |               |  |         |  |               |  |                       |  |               |  |
|--|---|--|---------------|--|---------|--|---------------|--|-----------------------|--|---------------|--|
| Auto switch model                      | D-M9NA  |  | D-M9NAV       |  | D-M9PA  |  | D-M9PAV       |  | D-M9BA                |  | D-M9BAV       |  |
| Electrical entry direction             | In-line   |  | Perpendicular |  | In-line |  | Perpendicular |  | In-line               |  | Perpendicular |  |
| Wiring type                            | 3-wire  |  |               |  |         |  |               |  | 2-wire                |  |               |  |
| Output type                            | NPN   |  |               |  | PNP     |  |               |  | —                     |  |               |  |
| Applicable load                        | IC circuit, Relay, PLC  |  |               |  |         |  |               |  | 24 VDC relay, PLC     |  |               |  |
| Power supply voltage                   | 5, 12, 24 VDC (4.5 to 28 V)   |  |               |  |         |  |               |  | —                     |  |               |  |
| Current consumption                    | 10 mA or less   |  |               |  |         |  |               |  | —                     |  |               |  |
| Load voltage                           | 28 VDC or less  |  |               |  | —       |  |               |  | 24 VDC (10 to 28 VDC) |  |               |  |
| Load current                           | 40 mA or less   |  |               |  |         |  |               |  | 2.5 to 40 mA          |  |               |  |
| Internal voltage drop                  | 0.8 V or less at 10 mA (2 V or less at 40 mA)   |  |               |  |         |  |               |  | 4 V or less           |  |               |  |
| Leakage current                        | 100 μA or less at 24 VDC  |  |               |  |         |  |               |  | 0.8 mA or less        |  |               |  |
| Indicator light                        | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |  |               |  |         |  |               |  |                       |  |               |  |
| Standard                               | CE marking, RoHS  |  |               |  |         |  |               |  |                       |  |               |  |

## Oilproof Flexible Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-M9NA□                    | D-M9NAV□            | D-M9PA□ | D-M9PAV□            | D-M9BA□              | D-M9BAV□ |
|--|-----------------------------------|----------------------------|---------------------|---------|---------------------|----------------------|----------|
| Sheath   | Outside diameter [mm]             | 2.6                        | 2.7 x 3.2 (ellipse) | 2.6     | 2.7 x 3.2 (ellipse) | 2.6                  | 2.6      |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |                     |         |                     | 2 cores (Brown/Blue) |          |
|  | Outside diameter [mm]             | 0.88                       | 0.9                 | 0.88    | 0.9                 | 0.88                 |          |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.15                       |                     |         |                     |                      |          |
|  | Strand diameter [mm]              | 0.05                       |                     |         |                     |                      |          |
| Minimum bending radius [mm] (Reference values) |                                   | 17                         | 20                  | 17      | 20                  | 17                   |          |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

# Water Resistant 2-Color Indicator Solid State Auto Switch: Direct Mounting Type D-Y7BA



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

- Water (coolant) resistant type
- Using flexible cable as standard spec.
- The proper operating range can be determined by the color of the light.  
(Red → Green ← Red)



## Caution

### Precautions

Please consult with SMC if using coolant liquid other than water based solution. Detection characteristics (operating range) are the same as D-Y5□ and D-Y7□W, but the detection area length is different.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-Y7BA (With indicator light) |   |
|-------------------------------|---|
| Auto switch model             | D-Y7BA  |
| Wiring type                   | 2-wire  |
| Applicable load               | 24 VDC Relay, PLC   |
| Load voltage                  | 24 VDC (10 to 28 VDC)   |
| Load current                  | 2.5 to 40 mA  |
| Internal voltage drop         | 4 V or less   |
| Leakage current               | 0.8 mA or less at 24 VDC  |
| Indicator light               | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |
| Standard                      | CE marking, RoHS  |

## Oilproof Flexible Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-Y7BA               |
|-------------------|--|----------------------|
| Sheath            | Outside diameter [mm]                          | ø3.4                 |
|                   | Number of cores                                | 2 cores (Brown/Blue) |
| Insulator         | Outside diameter [mm]                          | ø1                   |
|                   | Effective area [mm <sup>2</sup> ]              | 0.15                 |
| Conductor         | Strand diameter [mm]                           | ø0.05                |
|                   | Minimum bending radius [mm] (Reference values) | 21                   |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

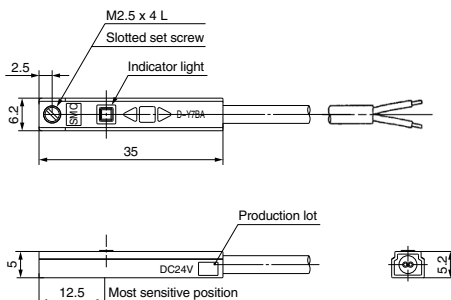
## Weight

(g)

| Auto switch model |         | D-Y7BA |
|-------------------|---------|--------|
| Lead wire length  | 3 m (L) | 54     |
|                   | 5 m (Z) | 88     |

## Dimensions

(mm)



D-□

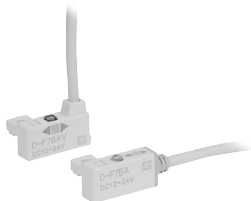
# Water Resistant 2-Color Indicator Solid State Auto Switch: Rail Mounting Type D-F7BA(V)



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

- Water (coolant) resistant type
- The proper operating range can be determined by the color of the light.  
(Red → Green ← Red)



## Caution

### Precautions

Please consult with SMC if using coolant liquid other than water based solution.

## Auto Switch Specifications

PLC: Programmable Logic Controller

### D-F7BA(V) (With indicator light)

| Auto switch model          | D-F7BA  | D-F7BAV       |
|----------------------------|---|---------------|
| Electrical entry direction | In-line   | Perpendicular |
| Wiring type                | 2-wire  |               |
| Output type                | —   |               |
| Applicable load            | 24 VDC Relay, PLC   |               |
| Power supply voltage       | —   |               |
| Current consumption        | —   |               |
| Load voltage               | 24 VDC (10 to 28 VDC)   |               |
| Load current               | 5 to 40 mA  |               |
| Internal voltage drop      | 4 V or less   |               |
| Leakage current            | 0.8 mA or less at 24 VDC  |               |
| Indicator light            | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |               |
| Standard                   | CE marking, RoHS  |               |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-F7BA               |
|-------------------|--|----------------------|
| Sheath            | Outside diameter [mm]                          | ø3.4                 |
|                   | Number of cores                                | 2 cores (Brown/Blue) |
| Insulator         | Outside diameter [mm]                          | ø1.1                 |
|                   | Effective area [mm <sup>2</sup> ]              | 0.2                  |
| Conductor         | Strand diameter [mm]                           | ø0.08                |
|                   | Minimum bending radius [mm] (Reference values) | 21                   |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

## Weight

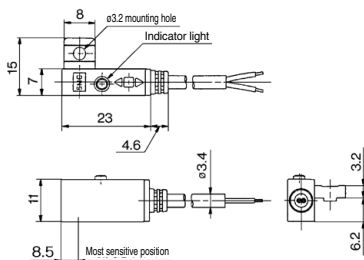
(g)

| Auto switch model |         | D-F7BA | D-F7BAV |
|-------------------|---------|--------|---------|
| Lead wire length  | 3 m (L) | 50     |         |
|                   | 5 m (Z) |        | 81      |

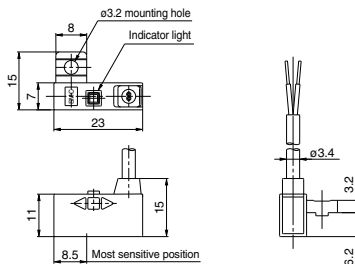
## Dimensions

(mm)

### D-F7BA



### D-F7BAV



# Water Resistant 2-Color Indicator Solid State Auto Switch: Tie-rod Mounting Type D-F5BA



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

- Water (coolant) resistant type
- The proper operating range can be determined by the color of the light.  
(Red → Green ← Red)



## Caution

### Precautions

Please consult with SMC if using coolant liquid other than water based solution.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F5BA (With indicator light) |   |
|-------------------------------|---|
| Auto switch model             | D-F5BA  |
| Wiring type                   | 2-wire  |
| Output type                   | —   |
| Applicable load               | 24 VDC Relay, PLC   |
| Power supply voltage          | —   |
| Current consumption           | —   |
| Load voltage                  | 24 VDC (10 to 28 VDC)   |
| Load current                  | 5 to 40 mA  |
| Internal voltage drop         | 4 V or less   |
| Leakage current               | 0.8 mA or less at 24 VDC  |
| Indicator light               | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |
| Standard                      | CE marking, RoHS  |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F5BA               |
|--|-----------------------------------|----------------------|
| Sheath   | Outside diameter [mm]             | ø4                   |
|  | Number of cores                   | 2 cores (Brown/Blue) |
| Insulator                                      | Outside diameter [mm]             | ø1.22                |
|  | Effective area [mm <sup>2</sup> ] | 0.3                  |
|  | Strand diameter [mm]              | ø0.08                |
| Minimum bending radius [mm] (Reference values) |                                   | 24                   |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

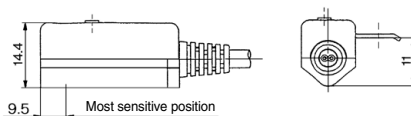
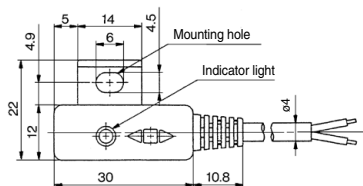
## Weight

(g)

| Auto switch model |         | D-F5BA |
|-------------------|---------|--------|
| Lead wire length  | 3 m (L) | 71     |
|                   | 5 m (Z) | 111    |

## Dimensions

(mm)



# Solid State Auto Switch with Timer Rail Mounting Type D-F7NT



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

- With built-in OFF-delay timer (approx. 200 ms)
- Easy intermediate detection



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F7NT (With indicator light) |  |
|-------------------------------|--|
| Auto switch model             | D-F7NT                                 |
| Wiring type                   | 3-wire                                 |
| Output type                   | NPN                                    |
| Output operation              | Off-delay                              |
| Operating time                | 1 ms or less                           |
| Off-delay time                | 200 ± 50 ms                            |
| Applicable load               | IC circuit, Relay, PLC                 |
| Power supply voltage          | 5, 12, 24 VDC (4.5 to 28 VDC)          |
| Current consumption           | 10 mA or less                          |
| Load voltage                  | 28 VDC or less                         |
| Load current                  | 40 mA or less                          |
| Internal voltage drop         | 1.5 V or less (0.8 V or less at 10 mA) |
| Leakage current               | 100 µA or less at 24 VDC               |
| Indicator light               | Red LED illuminates when turned ON.    |
| Standard                      | CE marking, RoHS                       |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model                              |                                   | D-F7NT                     |
|--|-----------------------------------|----------------------------|
| Sheath   | Outside diameter [mm]             | ø3.4                       |
| Insulator                                      | Number of cores                   | 3 cores (Brown/Blue/Black) |
|  | Outside diameter [mm]             | ø1.1                       |
| Conductor                                      | Effective area [mm <sup>2</sup> ] | 0.2                        |
|  | Strand diameter [mm]              | ø0.08                      |
| Minimum bending radius [mm] (Reference values) |                                   | 21                         |

Note 1) Refer to page 800 for solid state auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

## Weight

(g)

| Auto switch model |         | D-F7NT |
|-------------------|---------|--------|
| Lead wire length  | 3 m (L) | 57     |
|                   | 5 m (Z) | 92     |

## Timer Operation

### Detection of intermediate positioning for high-speed cylinder

Detecting point dispersion occurs due to response time of PLC (sequencer); e.g. scanning.

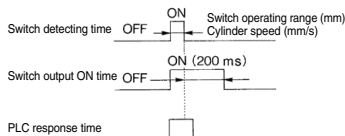
Ex.) Cylinder speed — 1000 mm/sec.

PLC response time — 0.1 sec.

Detecting point dispersion — Within

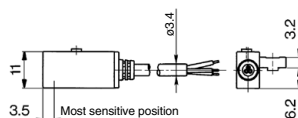
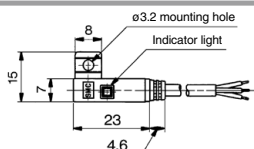
100 mm (= 1000 mm/sec. x 0.1 sec.)

Take PLC response time into consideration when using.



## Dimensions

(mm)



# Solid State Auto Switch with Timer Tie-rod Mounting Type D-F5NT



Refer to SMC website for the details of the products conforming to the international standards.

## Grommet

- With built-in OFF-delay timer (approx. 200 ms)
- Easy intermediate detection



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-F5NT (With indicator light) |  |
|-------------------------------|--|
| Auto switch model             | D-F5NT                                 |
| Wiring type                   | 3-wire                                 |
| Output type                   | NPN                                    |
| Output operation              | Off-delay                              |
| Operating time                | 1 ms or less                           |
| Off-delay time                | 200 ± 50 ms                            |
| Applicable load               | IC circuit, Relay, PLC                 |
| Power supply voltage          | 5, 12, 24 VDC (4.5 to 28 VDC)          |
| Current consumption           | 10 mA or less                          |
| Load voltage                  | 28 VDC or less                         |
| Load current                  | 40 mA or less                          |
| Internal voltage drop         | 1.5 V or less (0.8 V or less at 10 mA) |
| Leakage current               | 100 µA or less at 24 VDC               |
| Indicator light               | Red LED illuminates when turned ON.    |
| Standard                      | CE marking, RoHS                       |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-F5NT                     |
|-------------------|--|----------------------------|
| Sheath            | Outside diameter [mm]                          | ø4                         |
|                   | Number of cores                                | 3 cores (Brown/Blue/Black) |
| Insulator         | Outside diameter [mm]                          | ø1.22                      |
|                   | Effective area [mm <sup>2</sup> ]              | 0.3                        |
| Conductor         | Strand diameter [mm]                           | ø0.08                      |
|                   | Minimum bending radius [mm] (Reference values) | 24                         |

Note 1) Refer to page 800 for solid state auto switch common specifications.

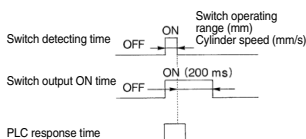
Note 2) Refer to page 800 for lead wire lengths.

## Timer Operation

### Detection of intermediate positioning for high-speed cylinder

Detecting point dispersion occurs due to response time of PLC (sequencer); e.g. scanning.

Ex.) Cylinder speed — 1000 mm/sec.  
PLC response time — 0.1 sec.  
Detecting point dispersion — Within 100 mm (= 1000 mm/sec. x 0.1 sec.)  
Take PLC response time into consideration when using.



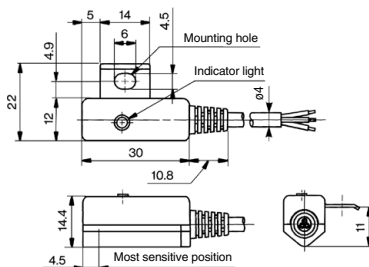
## Weight

(g)

| Auto switch model |         | D-F5NT |
|-------------------|---------|--------|
| Lead wire length  | 3 m (L) | 81     |
|                   | 5 m (Z) | 127    |

## Dimensions

(mm)







# Made to Order Specifications: Solid State Auto Switch



Refer to SMC website for the details of the products conforming to the international standards.

## 1 With Pre-wired Connector

- Eliminates the harnessing work by cable with connector specifications
- Adopts global standardized connector (IEC947-5-2)
- IP67 construction



## How to Order

**D-M9N S A PC**

**Solid state auto switch**  
**Standard part no.**

\* For the applicable auto switch model, refer to the table below.

**Cable length**

|          |       |
|----------|-------|
| <b>S</b> | 0.5 m |
| <b>M</b> | 1.0 m |
| <b>L</b> | 3.0 m |

Note) L is available for the D-P4DW type only.

**Connector model**

|          |           |
|----------|-----------|
| <b>A</b> | M8-3 pin  |
| <b>B</b> | M8-4 pin  |
| <b>D</b> | M12-4 pin |

Note) Type D is available for the D-P4DW type only.

## Connector Specifications

| Connector model | M8-3 pin | M8-4 pin | M12-4 pin |
|-----------------|----------|----------|-----------|
| Pin arrangement |          |          |           |

## Applicable Auto Switch

| Mounting              | Function               | Electrical entry         | Applicable model | Lead wire length (m) |     |     |   |
|-----------------------|------------------------|--------------------------|------------------|----------------------|-----|-----|---|
|                       |                        |                          |                  | 0.5                  | 1.0 | 3.0 |   |
| Rail mounting type    | —                      | Grommet (In-line)        | F79, F7P, J79    | ●                    | ●   | —   |   |
|                       |                        | Grommet (Perpendicular)  | F7NV, F7PV, F7BV | ●                    | ●   | —   |   |
|                       |                        | Grommet (In-line)        | F79W, F7PW, J79W | ●                    | ●   | —   |   |
|                       |                        | Grommet (Perpendicular)  | F7NWW, F7BWW     | ●                    | ●   | —   |   |
|                       | With diagnostic output | Grommet (In-line)        | F79F             | ●                    | ●   | —   |   |
|                       |                        |                          | F7BA             | ●                    | ●   | —   |   |
|                       | Water resistant        | Grommet (Perpendicular)  | F7BAV            | ●                    | ●   | —   |   |
|                       | With timer             |                          | F7NT             | ●                    | ●   | —   |   |
|                       |                        | Magnetic field resistant |                  | P4DW                 | ●   | ●   | ● |
|                       |                        |                          |                  | H7A1, H7A2, H7B      | ●   | ●   | — |
| Band mounting type    | —                      |                          | G59, G5P, K59    | ●                    | ●   | —   |   |
|                       |                        |                          | H7NW, H7PW, H7BW | ●                    | ●   | —   |   |
|                       |                        |                          | G59W, G5PW, K59W | ●                    | ●   | —   |   |
|                       |                        |                          | H7NF, G59F       | ●                    | ●   | —   |   |
|                       | Diagnostic output      | Grommet (In-line)        |                  | H7BA, G5BA           | ●   | ●   | — |
|                       |                        |                          |                  | G5NT                 | ●   | ●   | — |
|                       |                        |                          | G5NB             | ●                    | ●   | —   |   |
| Water resistant       |                        |                          | F59, F5P, J59    | ●                    | ●   | —   |   |
|                       |                        |                          | F59W, F5PW, J59W | ●                    | ●   | —   |   |
| Tie-rod mounting type | 2-color indicator      |                          | F59F             | ●                    | ●   | —   |   |
|                       | Diagnostic output      |                          | F5BA             | ●                    | ●   | —   |   |
|                       | Water resistant        |                          | F5NT             | ●                    | ●   | —   |   |
|                       | With timer             |                          |                  | ●                    | ●   | —   |   |

| Mounting             | Function          | Electrical entry        | Applicable model              | Lead wire length (m) |     |     |
|----------------------|-------------------|-------------------------|-------------------------------|----------------------|-----|-----|
|                      |                   |                         |                               | 0.5                  | 1.0 | 3.0 |
| Direct mounting type | —                 | Grommet (In-line)       | <b>Y59A, Y7P, Y59B</b>        | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>Y69A, Y7PV, Y69B</b>       | ●                    | ●   | —   |
|                      |                   | Grommet (In-line)       | <b>M9N, M9P, M9B</b>          | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>M9NV, M9PV, M9BV</b>       | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>F8N, F8P, F8B</b>          | ●                    | ●   | —   |
|                      |                   | Grommet (In-line)       | <b>F6N, F6P, F6B</b>          | ●                    | ●   | —   |
|                      | Normally closed   | Grommet (In-line)       | <b>Y7G, Y7H</b>               | ●                    | ●   | —   |
|                      |                   | Grommet (In-line)       | <b>F9G, F9H</b>               | ●                    | ●   | —   |
|                      | 2-color indicator | Grommet (In-line)       | <b>Y7NW, Y7PW, Y7BW</b>       | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>Y7NWW, Y7PWW, Y7BWW</b>    | ●                    | ●   | —   |
|                      |                   | Grommet (In-line)       | <b>M9NW, M9PW, M9BW</b>       | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>M9NWW, M9PWW, M9BWW</b>    | ●                    | ●   | —   |
| Rotary actuator      | —                 | Grommet (In-line)       | <b>Y7BA</b>                   | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>M9NA, M9PA, M9BA</b>       | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>M9NAV, M9PAV, M9BAV</b>    | ●                    | ●   | —   |
|                      |                   | Grommet (In-line)       | <b>S791/2, S7P1/2, T791/2</b> | ●                    | ●   | —   |
|                      |                   | Grommet (In-line)       | <b>S991/2, S9P1/2, T991/2</b> | ●                    | ●   | —   |
|                      |                   | Grommet (Perpendicular) | <b>S99V1/2, T99V1/2</b>       | ●                    | ●   | —   |

D-□

# With Pre-wired Connector



M8-3 pin



M8-4 pin



M12-4 pin

## Connector Pin Arrangement

| Sensor type               | Color distinction of lead wire |        |       |       | Meaning of contact number |                   |         |         |
|---------------------------|--------------------------------|--------|-------|-------|---------------------------|-------------------|---------|---------|
|                           | 1 pin                          | 2 pin  | 3 pin | 4 pin | 1 pin                     | 2 pin             | 3 pin   | 4 pin   |
| DC 2-wire type            | Brown                          | —      | —     | Blue  | OUT (+)                   | —                 | —       | OUT (-) |
| DC 2-wire, Non-polar type | —                              | —      | Brown | Blue  | —                         | —                 | OUT (±) | OUT (∓) |
| DC 3-wire type            | Brown                          | —      | Blue  | Black | DC (+)                    | —                 | DC (-)  | OUT     |
| DC 4-wire type            | Brown                          | Orange | Blue  | Black | DC (+)                    | Diagnostic output | DC (-)  | OUT     |

## Connector Specifications

| Connector model       | M8-3 pin  | M8-4 pin | M12-4 pin |
|-----------------------|---|----------|-----------|
| Pin arrangement       |   |          |           |
| Conformed standard    | JIS C 4524, JIS C 4525, IEC 947-5-2, NECA 0402                  |          |           |
| Impact resistance     | 300 m/s <sup>2</sup>  |          |           |
| Enclosure             | IP67 (IEC60529 standard)  |          |           |
| Insulation resistance | 100 MΩ or more at 500 VDC measured via megohmmeter              |          |           |
| Withstand voltage     | 1500 VAC 1 minute (between contacts), Leak current 1 mA or less |          |           |

## Dimensions

| Connector model   |  |
|-------------------|--|
| M8-3 pin<br>4 pin |  |
| M12-4 pin         |  |

## Weight for Connector Type

| Part no. | Connector type | Weight     |
|----------|----------------|------------|
| D-□□□APC | M8-3 pin       | 4 g        |
| D-□□□BPC | M8-4 pin       | 4 g        |
| D-□□□DPC | M12-4 pin      | About 11 g |

## Connection (Female side) Connector Cable

As the parts are not supplied from SMC, refer to the application examples listed in the below.  
(For detail such as catalog availability, etc., please contact each manufacturer.)

| Connector size | Number of pins            | Manufacturer         | Applicable series example |
|----------------|---------------------------|----------------------|---------------------------|
| M8             | 3                         | Phoenix Contact      | SAC-3P                    |
|                |                           | Corrence Corporation | M8-3D                     |
|                | 4                         |                      | M8-4D                     |
|                |                           | OMROM Corporation    | XS3                       |
| M12            |                           | Phoenix Contact      | SAC-4P                    |
|                |                           | Corrence Corporation | VA-4D                     |
|                |                           | OMROM Corporation    | XS2                       |
|                |                           | Azbil Corp.          | PA5-4I                    |
|                | HIROSE ELECTRIC CO., LTD. | HR24                 |                           |
|                | DDK Ltd.                  | CM01-8DP4S           |                           |

# Made to Order Specifications: Solid State Auto Switch

## -50: Without Indicator Light (Dark room) Specifications

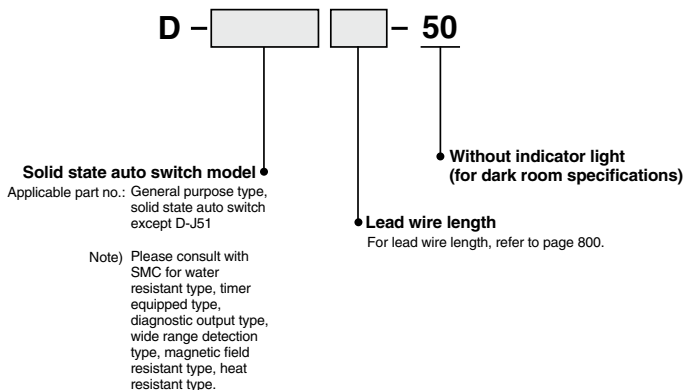
## -61: Oilproof Flexible Heavy-duty Cord Specifications

### 2 Without Indicator Light (for dark room specifications)

Symbol

-50

Possible to use under the environment which hates a light.



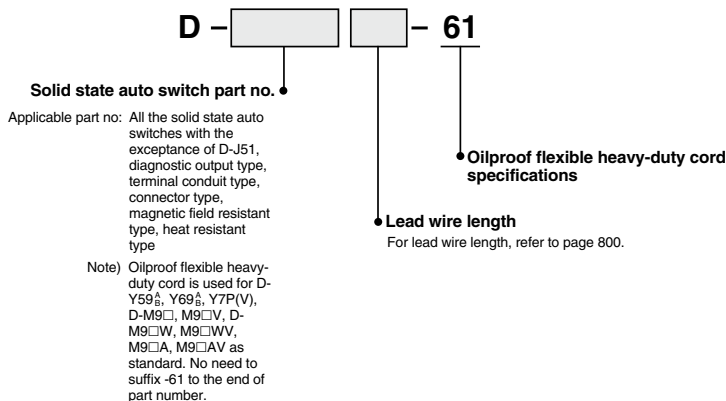
Dimensions and specifications are common as standard products with the exception of no indicator light.

### 3 Oilproof Flexible Heavy-duty Cord Specifications

Symbol

-61

This is the product which uses a heavy-duty cord having flexible characteristics 5 times (SMC comparison) as strong as oilproof heavy-duty cord used in the standard products.



Specifications are the same as standard products with the exception of lead wire specifications.

Lead wire: For D-F8 type..... ø2.7, 0.15 mm<sup>2</sup>, 3 cores (Brown, Blue, Black), 2 cores (Brown, Blue)  
For other model nos..... ø3.4, 0.15 mm<sup>2</sup>, 3 cores (Brown, Blue, Black), 2 cores (Brown, Blue)

Dimensions are identical with D-F5 type, G5 type, J59 type, K59 type. Lead wire diameter is changed from ø4 to ø3.4. In other series products, it is common as standard product's specifications.

# Reed Auto Switch Direct Mounting Type D-A90(V)/D-A93(V)/D-A96(V) C €

Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

### Grommet



D-A93



D-A90 (V)  
D-A93V  
D-A96 (V)

### Caution

#### Precautions

Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

| D-A90, D-A90V (Without indicator light)                    |   |                              |                               |
|--|---|------------------------------|-------------------------------|
| Auto switch model  | D-A90, D-A90V   |                              |                               |
| Applicable load  | IC circuit, Relay, PLC  |                              |                               |
| Load voltage   | 24 V $\frac{AC}{DC}$ or less  | 48 V $\frac{AC}{DC}$ or less | 100 V $\frac{AC}{DC}$ or less |
| Maximum load current                                       | 50 mA   | 40 mA                        | 20 mA                         |
| Circuit diagram*   | (4)   |                              |                               |
| Contact protection circuit                                 | None  |                              |                               |
| Internal resistance  | 1 $\Omega$ or less (Including lead wire length of 3 m)                                |                              |                               |
| Standard   | CE marking  |                              |                               |
| D-A93, D-A93V, D-A96, D-A96V (With indicator light)        |   |                              |                               |
| Auto switch model  | D-A93, D-A93V   | D-A96, D-A96V                |                               |
| Applicable load  | Relay, PLC  | IC circuit                   |                               |
| Load voltage   | 24 VDC <sup>(4)</sup>   | 100 VAC                      | 4 to 8 VDC                    |
| Load current range and Maximum load current <sup>(3)</sup> | 5 to 40 mA  | 5 to 20 mA                   | 20 mA                         |
| Circuit diagram*   | (3)   |                              | (5)                           |
| Contact protection circuit                                 | None  |                              |                               |
| Internal voltage drop                                      | D-A93: 2.4 V or less (up to 20 mA)/3 V or less (up to 40 mA)<br>D-A93V: 2.7 V or less |                              | 0.8 V or less                 |
| Indicator light  | Red LED illuminates when turned ON.   |                              |                               |
| Standard   | CE marking  |                              |                               |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model  | D-A90(V)                          | D-A93(V)             | D-A96(V)    |
|--|-----------------------------------|----------------------|-------------|
| Sheath   | Outside diameter [mm]             | $\phi 2.7$           |             |
| Insulator  | Number of cores                   | 2 cores (Brown/Blue) |             |
|  | Outside diameter [mm]             | $\phi 0.96$          | $\phi 0.91$ |
| Conductor  | Effective area [mm <sup>2</sup> ] | 0.18                 | 0.15        |
|  | Strand diameter [mm]              | $\phi 0.08$          |             |
| Lead wire minimum bending radius [mm] (Reference values) |                                   | 17                   |             |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

## Weight

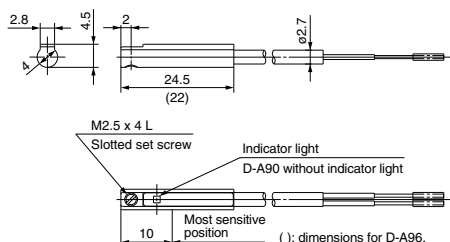
(g)

| Model            | D-A90       | D-A90V | D-A93 | D-A93V | D-A96 | D-A96V |
|------------------|-------------|--------|-------|--------|-------|--------|
| Lead wire length | 0.5 m (NII) | 6      | 6     | 6      | 8     | 8      |
|                  | 1 m (M)     | —      | —     | 11     | —     | —      |
|                  | 3 m (L)     | 30     | 30    | 30     | 41    | 41     |
|                  | 5 m (Z)     | —      | —     | 47     | 47    | —      |

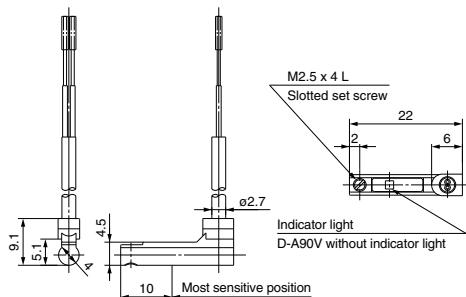
## Dimensions

(mm)

### D-A90/D-A93/D-A96



### D-A90V/D-A93V/D-A96V



# Reed Auto Switch Direct Mounting Type D-90/D-97



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-90 (Without indicator light) |   |                  |                  |
|--------------------------------|---|------------------|------------------|
| Auto switch model              | D-90  |                  |                  |
| Applicable load                | Relay, IC circuit, PLC                          |                  |                  |
| Load voltage                   | 5 VAC<br>5 VDC                                  | 12 VAC<br>12 VDC | 24 VAC<br>24 VDC |
| Max. load current              | 50 mA   |                  |                  |
| Circuit diagram*               | (4)   |                  |                  |
| Internal resistance            | 1 Ω or less (Including lead wire length of 3 m) |                  |                  |
| Standard                       | CE marking                                      |                  |                  |
| D-97 (With indicator light)    |   |                  |                  |
| Auto switch model              | D-97  |                  |                  |
| Applicable load                | Relay, PLC                                      |                  |                  |
| Load voltage                   | 24 VDC (4)                                      |                  |                  |
| Load current range (3)         | 5 to 40 mA                                      |                  |                  |
| Circuit diagram*               | (3)   |                  |                  |
| Internal voltage drop          | 2.4 V or less                                   |                  |                  |
| Indicator light                | Red LED illuminates when turned ON.             |                  |                  |
| Standard                       | CE marking                                      |                  |                  |

## Vinyl Parallel Cord Specifications

| Auto switch model  |                                   | D-90    | D-97 |
|--|-----------------------------------|---------|------|
| Insulator  | Number of cores                   | 2 cores |      |
|  | Outside diameter [mm]             | ø1.4    |      |
| Conductor  | Effective area [mm <sup>2</sup> ] | 0.2     |      |
|  | Strand diameter [mm]              | ø0.08   |      |
| Lead wire minimum bending radius [mm] (Reference values) |                                   | 9       |      |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

## Weight

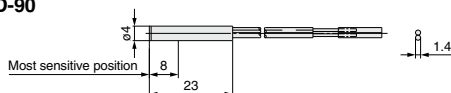
(g)

| Auto switch model |             | D-90 | D-97 |
|-------------------|-------------|------|------|
| Lead wire length  | 0.5 m (Nil) | 5    | 5    |
|                   | 3 m (L)     | 23   | 23   |
|                   | 5 m (Z)     | 37   | 37   |

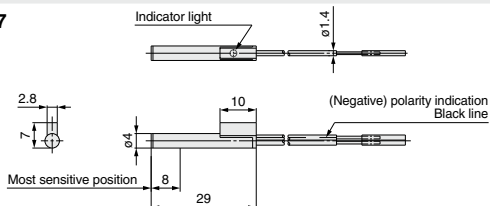
## Dimensions

(mm)

### D-90



### D-97



# Reed Auto Switch Direct Mounting Type D-90A/D-93A



Refer to SMC website for the details of the products conforming to the international standards.

**Grommet**  
**Lead wire: Heavy-duty cord**



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-90A (Without indicator light) |   |                        |                  |                    |
|---------------------------------|---|------------------------|------------------|--------------------|
| Auto switch model               |   | D-90A                  |                  |                    |
| Applicable load                 |   | Relay, IC circuit, PLC |                  |                    |
| Load voltage                    | 5 VAC<br>5 VDC                                  | 12 VAC<br>12 VDC       | 24 VAC<br>24 VDC | 100 VAC<br>100 VDC |
| Max. load current               | 50 mA   |                        |                  | 20 mA              |
| Circuit diagram*                | ④   |                        |                  |                    |
| Internal resistance             | 1 Ω or less (Including lead wire length of 3 m) |                        |                  |                    |
| Standard                        | CE marking                                      |                        |                  |                    |
| D-93A (With indicator light)    |   |                        |                  |                    |
| Auto switch model               |   | D-93A                  |                  |                    |
| Applicable load                 |   | Relay, PLC             |                  |                    |
| Load voltage                    | 24 VDC ④  |                        | 100 VAC          |                    |
| Load current range ③            | 5 to 40 mA                                      |                        | 5 to 20 mA       |                    |
| Circuit diagram*                | ③   |                        |                  |                    |
| Internal voltage drop           | 2.4 V or less                                   |                        |                  |                    |
| Indicator light                 | Red LED illuminates when turned ON.             |                        |                  |                    |
| Standard                        | CE marking                                      |                        |                  |                    |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model  |                                   | D-90A-D-93A          |
|--|-----------------------------------|----------------------|
| Sheath   | Outside diameter [mm]             | ø3.4                 |
| Insulator  | Number of cores                   | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | ø1.1                 |
| Conductor  | Effective area [mm <sup>2</sup> ] | 0.2                  |
|  | Strand diameter [mm]              | ø0.08                |
| Lead wire minimum bending radius [mm] (Reference values) |                                   | 21                   |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

## Weight

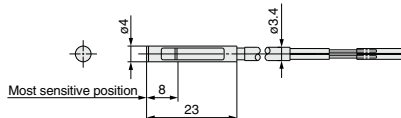
(g)

| Auto switch model |             | D-90A | D-93A |
|-------------------|-------------|-------|-------|
| Lead wire length  | 0.5 m (Nil) | 9     | 9     |
|                   | 3 m (L)     | 47    | 47    |
|                   | 5 m (Z)     | 77    | 77    |

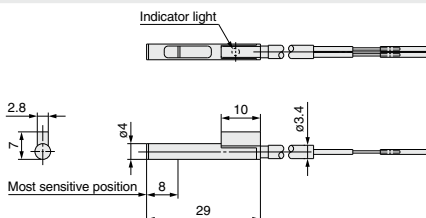
## Dimensions

(mm)

### D-90A

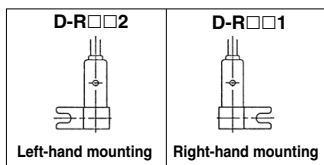


### D-93A



CE

**Grommet**  
**Electrical entry: In-line**



PLC: Programmable Logic Controller

| D-R73□ (With indicator light)     |   |                                   |
|-----------------------------------|---|-----------------------------------|
| Auto switch model                 | D-R731, D-R732                                  |                                   |
| Applicable load                   | Relay, PLC                                      |                                   |
| Load voltage                      | 24 VDC <sup>(4)</sup>                           | 100 VAC                           |
| Load current range <sup>(3)</sup> | 5 to 40 mA                                      | 5 to 20 mA                        |
| Circuit diagram *                 | ③   |                                   |
| Internal voltage drop             | 2.4 V or less                                   |                                   |
| Indicator light                   | Red LED illuminates when turned ON.             |                                   |
| Standard                          | CE marking                                      |                                   |
| D-R80□ (Without indicator light)  |   |                                   |
| Auto switch model                 | D-R801, D-R802                                  |                                   |
| Applicable load                   | Relay, IC circuit, PLC                          |                                   |
| Load voltage                      | 24 V <sup>AC</sup> <sub>DC</sub> or less        | 100 V <sup>AC</sup> <sub>DC</sub> |
| Max. load current                 | 50 mA   | 20 mA                             |
| Circuit diagram *                 | ④   |                                   |
| Internal resistance               | 1 Ω or less (Including lead wire length of 3 m) |                                   |
| Standard                          | CE marking                                      |                                   |

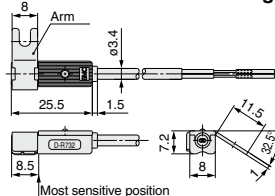
|                   |  |                      |
|-------------------|--|----------------------|
| Auto switch model |  | <b>D-R73□-D-R80□</b> |
| Sheath            | Outside diameter [mm]                                    | ø3.4                 |
| Insulator         | Number of cores  | 2 cores (Brown/Blue) |
|                   | Outside diameter [mm]                                    | ø1.1                 |
| Conductor         | Effective area [mm <sup>2</sup> ]                        | 0.2                  |
|                   | Strand diameter [mm]                                     | ø0.08                |
|                   | Lead wire minimum bending radius [mm] (Reference values) | 21                   |

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

(g)

| Auto switch model |             | D-R73□ | D-R80□ |
|-------------------|-------------|--------|--------|
| Lead wire length  | 0.5 m (Nil) | 11     | 11     |
|                   | 3 m (L)     | 49     | 49     |
|                   | 5 m (7)     | 79     | 79     |

(mm)



Most sensitive position

8.5

25.5

1.5

0.34

Arm

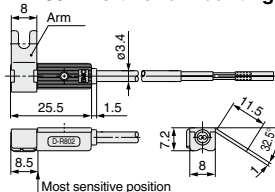
8

8

7.2

32.5

11.5





# Reed Auto Switch Direct Mounting Type D-R73□C/D-R80□C



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

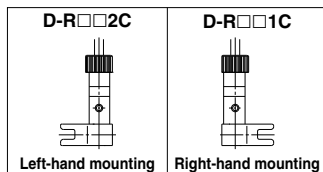
### Connector Electrical entry: In-line



## Caution

### Precautions

1. Confirm that there is no looseness after wiring. The looseness will decrease water resistance.
2. Refer to Best Pneumatics No. 2-1 for the details.



| D-R73□C (With indicator light)    |   |
|-----------------------------------|---|
| Auto switch model                 | D-R731C, D-R732C                                |
| Applicable load                   | Relay, PLC                                      |
| Load voltage                      | 24 VDC <sup>(5)</sup>                           |
| Load current range <sup>(4)</sup> | 5 to 40 mA                                      |
| Circuit diagram <sup>*</sup>      | <sup>(3)</sup>                                  |
| Internal voltage drop             | 2.4 V or less                                   |
| Indicator light                   | Red LED illuminates when turned ON.             |
| Standard                          | CE marking                                      |
| D-R80□C (Without indicator light) |   |
| Auto switch model                 | D-R801C, D-R802C                                |
| Applicable load                   | Relay, IC circuit, PLC                          |
| Load voltage                      | 24 V <sup>AC</sup> <sub>DC</sub>                |
| Max. load current                 | 50 mA   |
| Circuit diagram <sup>*</sup>      | <sup>(4)</sup>                                  |
| Internal resistance               | 1 Ω or less (Including lead wire length of 3 m) |
| Standard                          | CE marking                                      |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Lead wire with connector may be shipped with the auto switch.

Note 4) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 5) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

## Weight

(g)

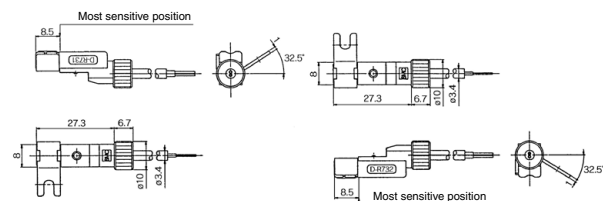
| Auto switch model    | D-R73□C | D-R80□C |
|----------------------|---------|---------|
| Lead wire length (m) |         |         |
| 0.5                  | 12      | 12      |
| 3                    | 51      | 51      |
| 5                    | 81      | 81      |

## Dimensions

(mm)

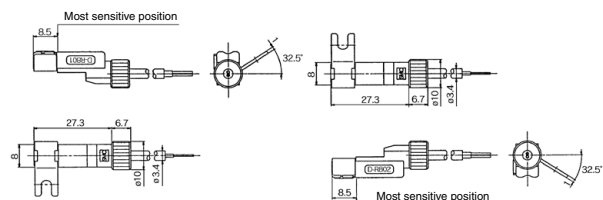
### D-R731C: Right-hand mounting

### D-R732C: Left-hand mounting



### D-R801C: Right-hand mounting

### D-R802C: Left-hand mounting



### Lead wires with a connector indication

### Part No. of Lead Wires with Connectors

(Applicable only for connector type)

| Model  | Lead wire length |
|--------|------------------|
| D-LC05 | 0.5 m            |
| D-LC30 | 3 m              |
| D-LC50 | 5 m              |

# Reed Auto Switch Rail Mounting Type D-A72/D-A73/D-A80



Refer to SMC website for the details of the products conforming to the international standards.

**Grommet**  
**Electrical entry: Perpendicular**



## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-A7 (With indicator light)       |   |                                  |                                   |
|-----------------------------------|---|----------------------------------|-----------------------------------|
| Auto switch model                 | D-A72   | D-A73                            |                                   |
| Applicable load                   | Relay, PLC                                      | Relay, PLC                       |                                   |
| Load voltage                      | 200 VAC   | 24 VDC <sup>(4)</sup>            | 100 VAC                           |
| Load current range <sup>(3)</sup> | 5 to 10 mA                                      | 5 to 40 mA                       | 5 to 20 mA                        |
| Circuit diagram <sup>*</sup>      | ③   |                                  |                                   |
| Contact protection circuit        | None  |                                  |                                   |
| Internal voltage drop             | 2.4 V or less                                   |                                  |                                   |
| Indicator light                   | Red LED illuminates when turned ON.             |                                  |                                   |
| Standard                          | CE marking                                      |                                  |                                   |
| D-A8 (Without indicator light)    |   |                                  |                                   |
| Auto switch model                 | D-A80   |                                  |                                   |
| Applicable load                   | Relay, IC circuit, PLC                          |                                  |                                   |
| Load voltage                      | 24 V <sup>AC</sup> <sub>DC</sub> or less        | 48 V <sup>DC</sup> <sub>DC</sub> | 100 V <sup>AC</sup> <sub>DC</sub> |
| Maximum load current              | 50 mA   | 40 mA                            | 20 mA                             |
| Circuit diagram <sup>*</sup>      | ④   |                                  |                                   |
| Contact protection circuit        | None  |                                  |                                   |
| Internal resistance               | 1 Ω or less (Including lead wire length of 3 m) |                                  |                                   |
| Standard                          | CE marking                                      |                                  |                                   |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model  | D-A72                             | D-A73                | D-A80 |
|--|-----------------------------------|----------------------|-------|
| Sheath   | Outside diameter [mm]             | ø3.4                 |       |
| Insulator  | Number of cores                   | 2 cores (Brown/Blue) |       |
|  | Outside diameter [mm]             | ø1.1                 |       |
| Conductor  | Effective area [mm <sup>2</sup> ] | 0.2                  |       |
|  | Strand diameter [mm]              | ø0.08                |       |
| Lead wire minimum bending radius [mm] (Reference values) |                                   | 21                   |       |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

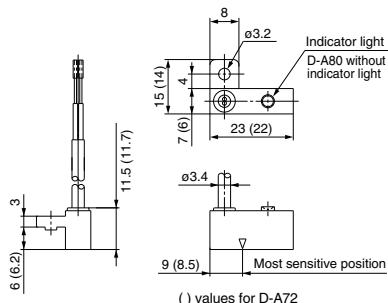
## Weight

(g)

| Auto switch model | D-A72 | D-A73 | D-A80 |
|-------------------|-------|-------|-------|
| Lead wire length  |       |       |       |
| 0.5 m (Nil)       | 10    | 10    | 10    |
| 3 m (L)           | 47    | 47    | 47    |
| 5 m (Z)           | —     | 77    | —     |

## Dimensions

(mm)



( ) values for D-A72



# Reed Auto Switch Rail Mounting Type D-A7□H/D-A80H



**Grommet  
Electrical entry: In-line**



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-A7□H (With indicator light)                       |   |                                  |                                   |               |
|---|---|----------------------------------|-----------------------------------|---------------|
| Auto switch model                                   | D-A72H  | D-A73H                           |                                   | D-A76H        |
| Applicable load                                     | Relay, PLC                                      | Relay, PLC                       |                                   | IC circuit    |
| Load voltage  | 200 VAC   | 24 VDC <sup>(4)</sup>            | 100 VAC                           | 4 to 8 VDC    |
| Max. load current/Load current range <sup>(3)</sup> | 5 to 10 mA                                      | 5 to 40 mA                       | 5 to 20 mA                        | 20 mA         |
| Circuit diagram*                                    | ③   |                                  |                                   | ⑤             |
| Contact protection circuit                          | None  |                                  |                                   |               |
| Internal voltage drop                               | 2.4 V or less                                   |                                  |                                   | 0.8 V or less |
| Indicator light                                     | Red LED illuminates when turned ON.             |                                  |                                   |               |
| Standard  | CE marking                                      |                                  |                                   |               |
| D-A80H (Without indicator light)                    |   |                                  |                                   |               |
| Auto switch model                                   | D-A80H  |                                  |                                   |               |
| Applicable load                                     | Relay, IC circuit, PLC                          |                                  |                                   |               |
| Load voltage  | 24 V <sup>AC</sup> <sub>DC</sub> or less        | 48 V <sup>AC</sup> <sub>DC</sub> | 100 V <sup>AC</sup> <sub>DC</sub> |               |
| Maximum load current                                | 50 mA   | 40 mA                            | 20mA                              |               |
| Circuit diagram*                                    | ④   |                                  |                                   |               |
| Contact protection circuit                          | None  |                                  |                                   |               |
| Internal resistance                                 | 1 Ω or less (Including lead wire length of 3 m) |                                  |                                   |               |
| Standard  | CE marking                                      |                                  |                                   |               |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model  |                                   | D-A72H/A73H          | D-A76H                     | D-A80H               |
|--|-----------------------------------|----------------------|----------------------------|----------------------|
| Sheath   | Outside diameter [mm]             | ø3.4                 |                            |                      |
| Insulator  | Number of cores                   | 2 cores (Brown/Blue) | 3 cores (Brown/Blue/Black) | 2 cores (Brown/Blue) |
|  | Outside diameter [mm]             | ø1.1                 |                            |                      |
| Conductor  | Effective area [mm <sup>2</sup> ] | 0.2                  |                            |                      |
|  | Strand diameter [mm]              | ø0.08                |                            |                      |
| Lead wire minimum bending radius [mm] (Reference values) |                                   | 21                   |                            |                      |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

## Weight

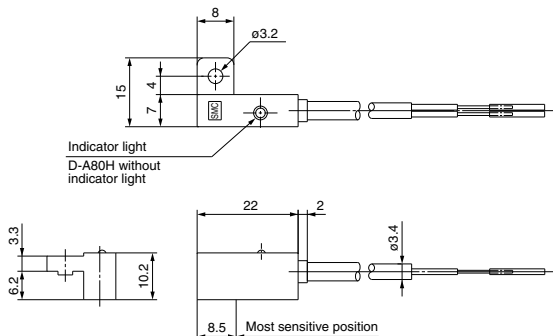
(g)

| Auto switch model |             | D-A72H | D-A73H | D-A76H | D-A80H |
|-------------------|-------------|--------|--------|--------|--------|
| Lead wire length  | 0.5 m (Nil) | 10     | 10     | 11     | 10     |
|                   | 3 m (L)     | 47     | 47     | 52     | 47     |
|                   | 5 m (Z)     | —      | 77     | —      | —      |

## Dimensions

(mm)

D-A7□H, D-A80H



# Reed Auto Switch Rail Mounting Type D-A73C/D-A80C



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

### Connector



### Caution

#### Precautions

1. Confirm that the connector is appropriately tightened. If tightened insufficiently, the waterproof performance will deteriorate.
2. Refer to Best Pneumatics No. 2-1 for the details.

| D-A73C (With indicator light)     |   |
|-----------------------------------|---|
| Auto switch model                 | D-A73C  |
| Applicable load                   | Relay, PLC                                      |
| Load voltage                      | 24 VDC <sup>(5)</sup>                           |
| Load current range <sup>(4)</sup> | 5 to 40 mA                                      |
| Circuit diagram <sup>3</sup>      | ③   |
| Contact protection circuit        | None  |
| Internal voltage drop             | 2.4 V or less                                   |
| Indicator light                   | Red LED illuminates when turned ON.             |
| Standard                          | CE marking                                      |
| D-A80C (Without indicator light)  |   |
| Auto switch model                 | D-A80C  |
| Applicable load                   | Relay, IC circuit, PLC                          |
| Load voltage                      | 24 V <sup>AC</sup> <sub>DC</sub>                |
| Maximum load current              | 50 mA   |
| Circuit diagram <sup>3</sup>      | ④   |
| Contact protection circuit        | None  |
| Internal resistance               | 1 Ω or less (Including lead wire length of 3 m) |
| Standard                          | CE marking                                      |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Lead wire with connector may be shipped with the auto switch.

Note 4) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 5) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

## Weight

(g)

| Auto switch model |             | D-A73C | D-A80C |
|-------------------|-------------|--------|--------|
| Lead wire length  | 0.5 m (Nil) | 12     | 12     |
|                   | 3 m (L)     | 54     | 54     |
|                   | 5 m (Z)     | 84     | 84     |

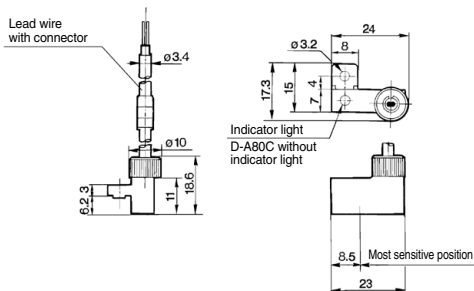
## Dimensions

(mm)

### Lead wires with a connector indication

Part No. of Lead Wires with Connectors  
(Applicable only for connector type)

| Model  | Lead wire length |
|--------|------------------|
| D-LC05 | 0.5 m            |
| D-LC30 | 3 m              |
| D-LC50 | 5 m              |



# Reed Auto Switch Tie-rod Mounting Type D-A5□/D-A6□



Refer to SMC website for the details of the products conforming to the international standards.

## Auto Switch Specifications

PLC: Programmable Logic Controller

| D-A5 (With indicator light)                      |  |   |            |   |               |
|--|--|---|------------|---|---------------|
| Auto switch model                                | D-A53                                    | D-A54   |            |   | D-A56         |
| Applicable load                                  | PLC                                      | Relay, PLC  |            |   | IC circuit    |
| Load voltage                                     | 24 VDC <sup>(4)</sup>                    | 24 VDC <sup>(4)</sup>                                   | 100 VAC    | 200 VAC   | 4 to 8 VDC    |
| Maximum load <sup>(3)</sup><br>current and range | 5 to 50 mA                               | 5 to 50 mA  | 5 to 25 mA | 5 to 12.5 mA                                    | 20 mA         |
| Circuit diagram*                                 | ③  | ①   |            |   | ⑤             |
| Contact protection circuit                       | None                                     | Built-in  |            |   | None          |
| Internal voltage drop                            | 2.4 V or less                            | 2.4 V or less (Up to 20 mA)/3.5 V or less (Up to 50 mA) |            |   | 0.8 V or less |
| Indicator light                                  | Red LED illuminates when turned ON.      |   |            |   |               |
| Standard   | CE marking                               |   |            |   |               |
| D-A6 (Without indicator light)                   |  |   |            |   |               |
| Auto switch model                                | D-A64                                    |   |            | D-A67   |               |
| Applicable load                                  | Relay, PLC                               |   |            | PLC/IC circuit                                  |               |
| Load voltage                                     | 24 V <sup>AC</sup> <sub>DC</sub> or less | 100 VAC   | 200 VAC    | Max. 24 VDC                                     |               |
| Maximum load current                             | 50 mA                                    | 25 mA   | 12.5 mA    | 30 mA   |               |
| Circuit diagram*                                 | ②  |   |            | ④   |               |
| Contact protection circuit                       | Built-in                                 |   |            | None  |               |
| Internal resistance                              | 25 Ω or less                             |   |            | 1 Ω or less (Including lead wire length of 3 m) |               |
| Standard   | CE marking                               |   |            |   |               |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |   | D-A53/A54            | D-A56                      | D-A64/A67            |
|-------------------|---|----------------------|----------------------------|----------------------|
| Sheath            | Outside diameter [mm]                                   | ø4                   |                            |                      |
| Insulator         | Number of cores   | 2 cores (Brown/Blue) | 3 cores (Brown/Blue/Black) | 2 cores (Brown/Blue) |
|                   | Outside diameter [mm]                                   | ø1.22                |                            |                      |
| Conductor         | Effective area [mm <sup>2</sup> ]                       | 0.3                  | 0.2                        | 0.3                  |
|                   | Strand diameter [mm]                                    | ø0.08                |                            |                      |
|                   | Lead wire minimum bending radius [mm] (Reference value) | 24                   |                            |                      |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Note 4) The auto switches can operate at 12 VDC, but consider the internal voltage drop of the auto switch described in Reed Auto Switch Precautions on page 374.

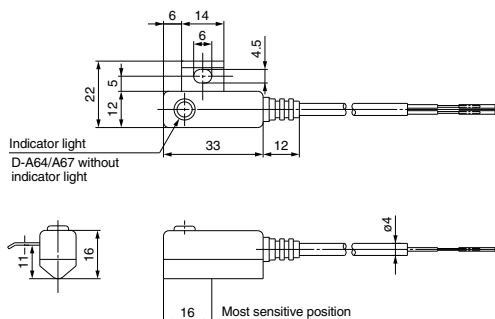
## Weight

(g)

| Auto switch model |             | D-A53 | D-A54 | D-A56 | D-A64 | D-A67 |
|-------------------|-------------|-------|-------|-------|-------|-------|
| Lead wire length  | 0.5 m (Nil) | 24    | —     | 24    | 24    | —     |
|                   | 3 m (L)     | 48    | —     | 48    | 48    | —     |
|                   | 5 m (Z)     | 96    | —     | —     | —     | —     |
|                   |             |       |       |       |       |       |

## Dimensions

(mm)



# 2-Color Indicator Reed Auto Switch Rail Mounting Type D-A79W



## Grommet

The proper operating range can be determined by the color of the light.

(Red → Green ← Red)



## Auto Switch Specifications

Refer to SMC website for the details of the products conforming to the international standards.

PLC: Programmable Logic Controller

| D-A79W (With indicator light)     |   |
|-----------------------------------|---|
| Auto switch model                 | D-A79W  |
| Applicable load                   | Relay, PLC  |
| Load voltage                      | 24 VDC  |
| Load current range <sup>(3)</sup> | 5 to 40 mA  |
| Circuit diagram <sup>*</sup>      | ⑦   |
| Contact protection circuit        | None  |
| Internal voltage drop             | 4 V or less   |
| Indicator light                   | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |
| Standard                          | CE marking  |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-A79W               |
|-------------------|--|----------------------|
| Sheath            | Outside diameter [mm]                                    | ø3.4                 |
|                   | Number of cores  | 2 cores (Brown/Blue) |
| Insulator         | Outside diameter [mm]                                    | ø1.1                 |
|                   | Effective area [mm <sup>2</sup> ]                        | 0.2                  |
| Conductor         | Strand diameter [mm]                                     | ø0.08                |
|                   | Lead wire minimum bending radius [mm] (Reference values) | 21                   |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

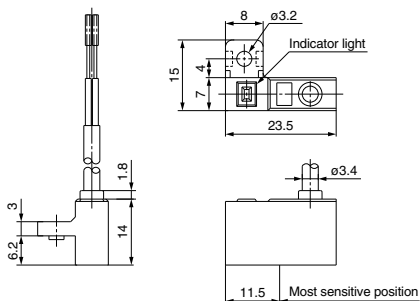
## Weight

(g)

| Auto switch model |             | D-A79W |
|-------------------|-------------|--------|
| Lead wire length  | 0.5 m (Nil) | 11     |
|                   | 3 m (L)     | 53     |

## Dimensions

(mm)



D-□

# 2-Color Indicator Reed Auto Switch Tie-rod Mounting Type D-A59W



## Grommet

The proper operating range can be determined by the color of the light.

(Red → Green ← Red)



## Auto Switch Specifications

Refer to SMC website for the details of the products conforming to the international standards.

PLC: Programmable Logic Controller

| D-A59W (With indicator light)     |   |
|-----------------------------------|---|
| Auto switch model                 | D-A59W  |
| Applicable load                   | Relay, PLC  |
| Load voltage                      | 24 VDC  |
| Load current range <sup>(3)</sup> | 5 to 40 mA  |
| Circuit diagram*                  | ⑥   |
| Contact protection circuit        | Built-in  |
| Internal voltage drop             | 4 V or less   |
| Indicator light                   | Operating range ..... Red LED illuminates.<br>Proper operating range ..... Green LED illuminates. |
| Standard                          | CE marking  |

## Oilproof Heavy-duty Lead Wire Specifications

| Auto switch model |  | D-A59W               |
|-------------------|--|----------------------|
| Sheath            | Outside diameter [mm]                                    | ø4                   |
|                   | Number of cores  | 2 cores (Brown/Blue) |
| Insulator         | Outside diameter [mm]                                    | ø1.22                |
|                   | Effective area [mm <sup>2</sup> ]                        | 0.3                  |
| Conductor         | Strand diameter [mm]                                     | ø0.08                |
|                   | Lead wire minimum bending radius [mm] (Reference values) | 24                   |

\* Refer to the circuit diagram no. on page 803.

Note 1) Refer to page 800 for reed auto switch common specifications.

Note 2) Refer to page 800 for lead wire lengths.

Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

## Weight

(g)

| Auto switch model |             | D-A59W |
|-------------------|-------------|--------|
| Lead wire length  | 0.5 m (Nil) | 25     |
|                   | 3 m (L)     | 80     |

## Dimensions

(mm)

