

Rotary Actuators Applicable Auto Switch Variations

Type	Auto switch mounting style	Electrical entry	Auto switch model	Applicable series	CDRA1		CDRB		CDRQ2	CRJ	MRQ	MDSU		MSQ		MSZ	CDRQ2X	MSQX	Page		
				Size	30	50 to 100	10, 15	20 to 100	10 to 40	05, 1	32, 40	1, 3	7, 20	1, 7	10 to 200	10 to 50	10 to 40	10 to 50			
Solid State Auto Switch	Rail	Grommet	D-F79/F7P/J79		●						●								767		
			D-F7NV/F7PV/F7BV		●						●								768		
		Connector	D-J79C		●							●							769		
		Grommet	D-F59/F5P/J59/J51			●														770	
			Grommet	D-S991/S992/D-S99V1/S99V2				●					●								771
		D-T991/T992/D-T99V1/T99V2					●					●								771	
		D-S9P1/S9P2/D-S9PV1/S9PV2					●					●								771	
		D-S791/S792						●					●							772	
		D-T791/T792						●					●							772	
		D-S7P1/S7P2						●					●							772	
		D-T791C/T792C						●					●							772	
		Grommet	D-F8N/F8P/F8B							●				●						773	
			D-M9N/M9P/M9B						●	●				●	●	●	●	●		774	
			D-M9NV/M9PV/M9BV						●	●				●	●	●	●	●		774	
	D-Y59A/Y7P/Y59B																		775		
	D-Y69A/Y7PV/Y69B																		775		
	Rail		D-F79W/F7PW/J79W		●							●								776	
			D-F7NWV/F7BWV		●							●								777	
	Direct	Grommet	D-Y7NW/Y7PW/Y7BW																	778	
			D-Y7NWV/Y7PWV/Y7BWV																	778	
		D-M9NW/M9PW/M9BW					●	●				●	●	●	●	●			779		
		D-M9NWV/M9PWV/M9BWV					●	●				●	●	●	●	●			779		
	Tie-rod	Grommet	D-F59W/F5PW/J59W			●													780		
	Rail	Grommet	D-F79F		●						●									781	
			D-F59F			●														782	
	Water resistant 2-color indication	Rail	Grommet	D-F7BAL/F7BAVL		●						●								783	
		Tie-rod		D-F5BAL			●												784		
		D-Y7BAL																	785		
		D-M9NAL/M9PAL/M9BAL					●					●	●	●	●				786		
	D-M9NAVL/M9PAVL/M9BAVL					●					●	●	●	●				786			
	With timer	Rail	Grommet	D-F7NTL		●						●								787	
		Tie-rod		D-F5NTL			●													788	
	Trimmer	Direct	Grommet	D-Y7K																789	
Reed Auto Switch	Rail	Grommet	D-A72/A73/A80		●						●									799	
			D-A72H/A73H		●						●									800	
		D-A76H/A80H		●						●										801	
		Connector	D-A73C/A80C		●							●								801	
	Direct	Grommet	D-A53/A54/A56			●														802	
			D-A64/A67																	802	
		D-90/97				●						●								803	
		D-A90/A93/A96					●								●	●	●	●		804	
		D-A90V/A93V/A96V						●						●	●	●	●			804	
		D-90A/93A				●						●								805	
		D-R731/R732					●						●							806	
		D-R801/R802					●						●							806	
	Connector	D-R731C/R732C					●						●							807	
		D-R801C/R802C					●						●							807	
	2-color indication	Rail	Grommet	D-A79W		●						●									808
		Tie-rod	Grommet	D-A59W			●														809

Air Grippers Applicable Auto Switch Variations

Type	Auto switch mounting style	Electrical entry	Auto switch model	Applicable series	MHZ(L)2				MHZJ2		MHF2	MHL2	MDHR	MHK(L)2	MHS	MHSL	MHSH	MHSJ	MHC2	MHT2	MHW2	MHY2	MRHQ	Page		
				Size	6	10	16	20 to 40	10	16	20, 25	8 to 20	10 to 40	10 to 30	12 to 25	16 to 25	32 to 63	80 to 125	16	20 to 80	6	10 to 25	32 to 63		20 to 50	10 to 25
Solid State Auto Switch	Rail	Grommet	D-F79/F7P/J79																						767	
			D-F7NV/F7PV/F7BV																						768	
		Connector	D-J79C																						769	
		Grommet	D-F59/F5P/J59/J51																						770	
	Direct	Grommet	D-S991/S992/D-S99V1/S99V2																							771
			D-T991/T992/D-T99V1/T99V2																							771
			D-S9P1/S9P2/D-S9PV1/S9PV2																							771
			D-S791/S792																							772
		Connector	D-T791/T792																							772
			D-S7P1/S7P2																							772
			D-T791C/T792C																							772
			Grommet	D-F8N/F8P/F8B																						
		D-M9N/M9P/M9B																								774
		D-M9NV/M9PV/M9BV																								774
		D-M9N/M9P/M9B-746																								731
		D-Y59A/Y7P/Y59B																								775
			D-Y69A/Y7PV/Y69B																							775
	Rail	Grommet	D-F79W/F7PW/J79W																							776
			D-F7NWV/7BWV																							777
	Direct	Grommet	D-Y7NW/7PW/7BW																							778
			D-Y7NWV/7PWV/7BWV																							778
			D-M9NW/M9PW/M9BW																							779
			D-M9NWV/M9PWV/M9BWV																							779
	Tie-rod	Grommet	D-F59W/F5PW/J59W																						780	
	Rail	Grommet	D-F79F																							781
			D-F59F																							782
	Water resistant 2-color indication	Rail	Grommet	D-F7BAL/F7BAVL																						783
				D-F5BAL																						784
		Direct	Grommet	D-Y7BAL																						785
				D-M9NAL/M9PAL/M9BAL																						786
				D-M9NAVL/M9PAVL/M9BAVL																						786
	Rail	Grommet	D-F7NTL																						787	
			D-F5NTL																						788	
	Trimmer	Direct	Grommet	D-Y7K																						789
Reed Auto Switch	Rail	Grommet	D-A72/A73/A80																						799	
			D-A72H/A73H																						800	
		D-A76H/A80H																							801	
		Connector	D-A73C/A80C																						802	
	Direct	Grommet	D-A53/A54/A56																							803
			D-A64/A67																							804
			D-90/97																							805
			D-A90/A93/A96																							806
		D-A90V/A93V/A96V																							806	
		D-90A/93A																							807	
		D-R731/R732																							807	
		D-R801/R802																							807	
	Connector	D-R731C/R732C																								807
		D-R801C/R802C																								807
Rail	Grommet	D-A79W																						808		
Tie-rod	Grommet	D-A59W																						809		

Prior to Use

Auto Switches Common Specifications 1

⚠ Specific Product Precautions

Refer to the Auto Switch Precautions on pages 362 to 365 before using auto switches.

Auto Switches Common Specifications

Type	Reed auto switch	Solid state auto switch
Leakage current	None	3-wire: 100 μ A or less, 2-wire: 0.8 mA or less
Operating time	1.2 ms	1 ms or less ⁽³⁾
Impact resistance	300 m/s ²	1000 m/s ² ⁽⁴⁾
Insulation resistance	50 M Ω or more at 500 M VDC (Between lead wire and case)	
Withstand voltage	1500 VAC for 1 minute ⁽¹⁾ (Between lead wire and case)	1000 VAC for 1 minute (Between lead wire and case)
Ambient temperature	-10 to 60°C	
Enclosure	IEC60529 Standard IP67 ⁽²⁾	

- * 1) Electrical entry: Connector type (A73C/A80C/R73□C/R80□C) and D-9/9□A type: 1000 VAC/min. (Between lead wire and the case)
- * 2) The trimmer type amplifier section (D-R□K) conforms to IP40.
- * 3) Excluding the solid state auto switches with a timer (F7NTL/F5NTL types). The operating time for D-J51 is 2 ms or less.
- * 4) 980 m/s² for the trimmer type sensor section, 98 m/s² for the amplifier section.

Lead Wire

Lead wire length indication
(Example)

D-M9BW **L**

● Lead wire length

Nil	0.5 m
M	1 m
L	3 m
Z	5 m
N*	None

* Applicable for the connector type (D-□□C) only.

Note 1) Lead wire length Z: 5 m

Applicable auto switches

Reed auto switch: D-A73(C) (H)/A80C, R73□(C), R80□(C)
D-A53/A54, D-90A/93A

Solid state auto switch: Manufactured upon receipt of order as standard.

Note 2) The standard lead wire length for solid state auto switches with a timer, water resistant 2-color indication solid state auto switches and trimmer auto switches is 3 m. (0.5 m is not available.)

Note 3) 1 m (M): D-M9□(W)(V) only

Note 4) Lead wire length tolerance

Lead wire length	Tolerance
0.5 m	±15 mm
1 m	±30 mm
3 m	±90 mm
5 m	±150 mm

Solid state auto switch oil resistant flexible cabtire cord indication

Add a -61 at the end of the part number for the solid state auto switch flexible cord except D-Y59□, D-Y69□, D-Y7□, D-M9□/M9□V, D-M9□W/M9□WV, and D-M9□AL/M9□AVL.

(Example)

D-F7PL- **61**

● Flexible specification

(D-Y59, D-Y69 and D-Y7 series use flexible lead wire as standard.)

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

Prior to Use

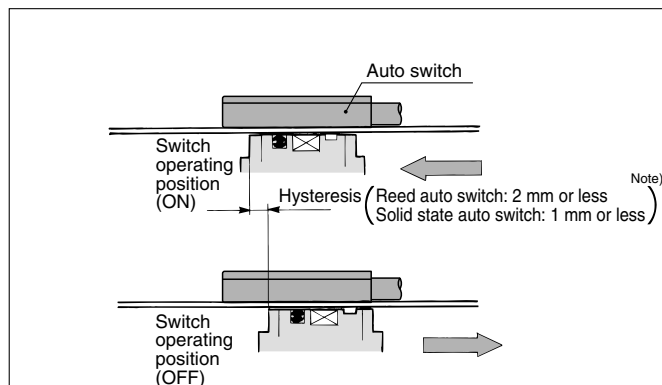
Auto Switches Common Specifications 2

⚠ Specific Product Precautions

Refer to the Auto Switch Precautions on pages 362 to 365 before using auto switches.

Auto Switch Hysteresis

Hysteresis is the distance between the position at which piston movement operates an auto switch to the position at which reverse movement turns the switch off. This hysteresis is included in part of the operating range (one side).



Note) Hysteresis may fluctuate due to the operating environment. Please contact SMC if hysteresis causes an operational problem.

Contact Protection Box: CD-P11, CD-P12

<Applicable switch models>

D-A7/A8, D-A7□H/A80H, D-A73C/A80C, R73□/R80□, R73□C/R80□C, D-9/9□A, D-A9/A9□V, and D-A79W type

The auto switches above do not have a built-in contact protection circuit. A contact protection box is not required for solid state auto switches due to their construction.

- ① Where the operation load is an inductive load.
- ② Where the wiring length to load is greater than 5 m.
- ③ Where the load voltage is 100/200 VAC.

Therefore, use a contact protection box with the switch for any of the above cases:

The contact life may be shortened (due to permanent energizing conditions.)

D-A72(H) must be used with the contact protection box regardless of load types and lead wire length since it is greatly affected by loads.

(Where the load voltage is 110 VAC)

When the load voltage is increased by more than 10% to the rating of applicable auto switches (except D-A73C/A80C/R73□C/R80□C/90/97/A79W) above, use a contact protection box (CD-P11) to reduce the upper limit of the load current by 10% so that it can be set within the range of the load current range, 110 VAC.

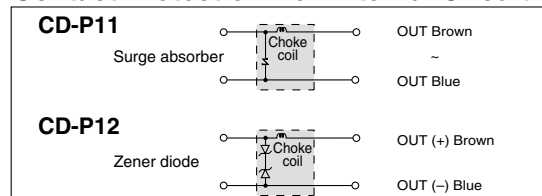
Even for the built-in contact protection circuit type (D-A54/A64, D-A59W), use the contact protection box when the wiring length to load is very long (over 30 m) and PLC (Programmable Logic Controller) with a large inrush current is used.

Contact Protection Box Specifications

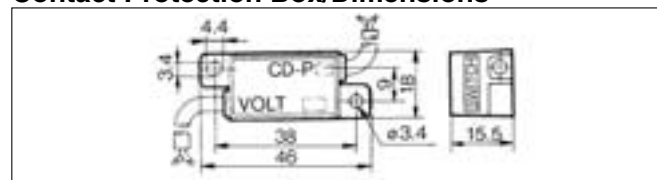
Part no.	CD-P11	CD-P12
Load voltage	100 VAC or less	200 VAC
Max. load current	25 mA	12.5 mA

* Lead wire length — Auto switch connection side 0.5 m
Load connection side 0.5 m

Contact Protection Box Internal Circuit



Contact Protection Box/Dimensions



Contact Protection Box Connection

To connect a switch unit to a contact protection box, connect the lead wire from the side of the contact protection box marked SWITCH to the lead wire coming out of the switch unit. Keep the switch as close as possible to the contact protection box, with a lead wire length of no more than 1 meter.

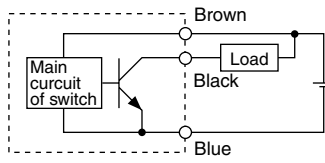
D-□

Prior to Use

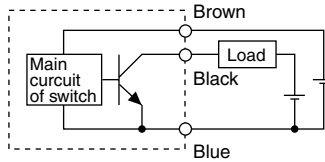
Auto Switches Connection and Example

Basic Wiring

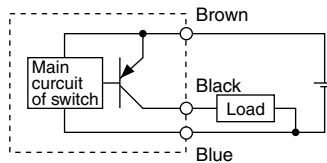
Solid state 3-wire, NPN



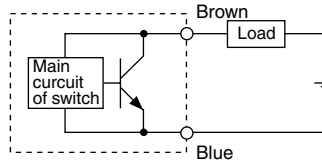
(Power supply for switch and load are separate)



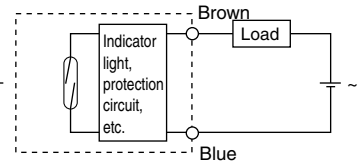
Solid state 3-wire, PNP



2-wire (Solid state)

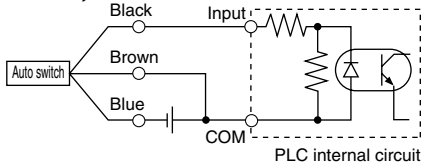


2-wire (Reed)

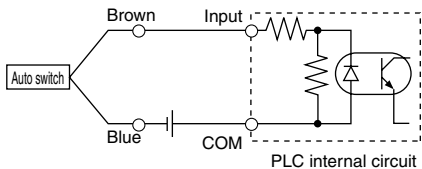


Example of Connection with PLC (Programmable Logic Controller)

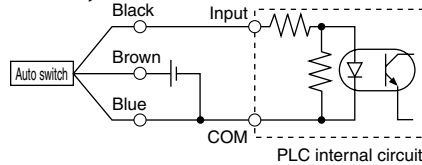
• Sink input specifications 3-wire, NPN



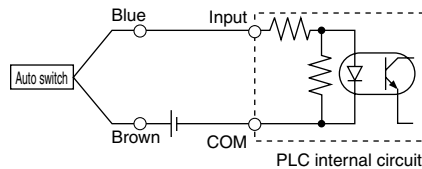
2-wire



• Source input specifications 3-wire, PNP



2-wire

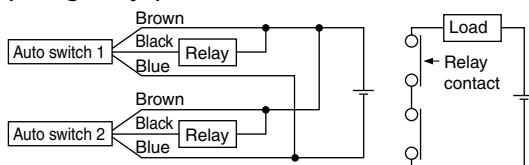


Connect according to the applicable PLC input specifications, as the connection method will vary depending on the PLC input specifications.

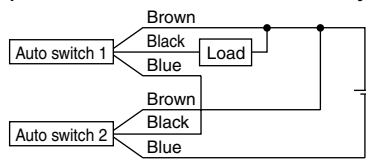
Example of AND (Series) and OR (Parallel) Connection

• 3-wire

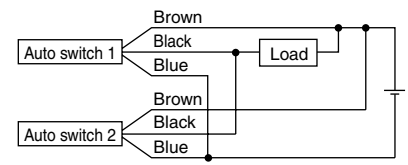
AND connection for NPN output (Using relays)



AND connection for NPN output (Performed with auto switches only)



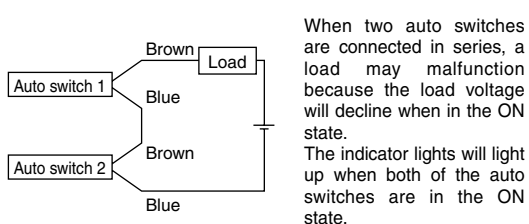
OR connection for NPN output



The indicator lights will light up when both auto switches are turned ON.

• 2-wire

2-wire with 2-switch AND connection

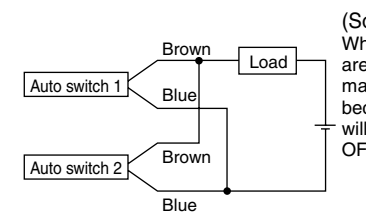


When two auto switches are connected in series, a load may malfunction because the load voltage will decline when in the ON state. The indicator lights will light up when both of the auto switches are in the ON state.

Load voltage at ON = Power supply voltage – Residual voltage x 2 pcs.
= 24 V – 4 V x 2 pcs.
= 16 V

Example: Power supply is 24 VDC
Internal voltage drop in auto switch is 4 V.

2-wire with 2-switch OR connection



(Solid state auto switch) When two auto switches are connected in parallel, malfunction may occur because the load voltage will increase when in the OFF state.

Load voltage at OFF = Leakage current x 2 pcs. x Load impedance
= 1 mA x 2 pcs. x 3 kΩ
= 6 V

Example: Load impedance is 3 kΩ.
Leakage current from auto switch is 1 mA.

(Reed auto switch) Because there is no current leakage, the load voltage will not increase when turned OFF. However, depending on the number of auto switches in the ON state, the indicator lights may sometimes grow dim or not light up, due to the dispersion and reduction of the current flowing to the auto switches.

Solid State Auto Switch Rail Mounting Style 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 (0.8 V or less 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	Red LED illuminates when turned ON.		
Standard	CE marking		

- Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

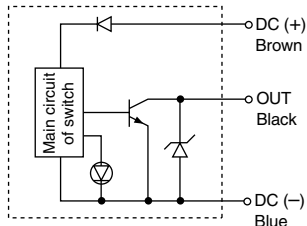
Note 2) Refer to page 764 for lead wire lengths.

Grommet

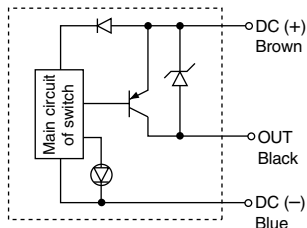


Auto Switch Internal Circuit

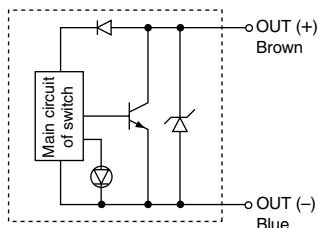
D-F79



D-F7P



D-J79



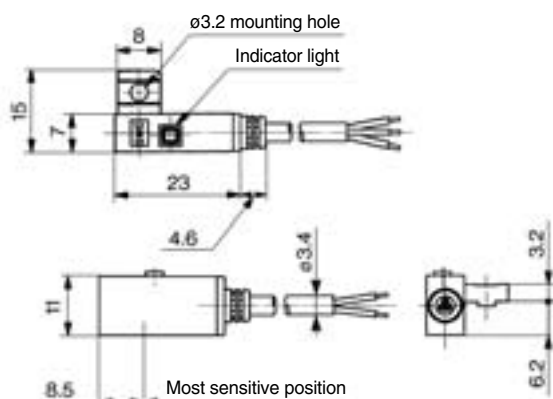
Mass

(g)

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

Dimensions

(mm)



D-□

Solid State Auto Switch Rail Mounting Style D-F7NV/D-F7PV/D-F7BV



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 (0.8 V or less at 10 mA load current)	0.8 V or less	4 V or less
Leakage current	100 μ 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		

- Lead wires — Oilproof heavy-duty vinyl cord, ϕ 3.4, 0.2 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

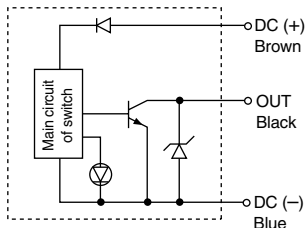
Note 2) Refer to page 764 for lead wire lengths.

Grommet Electrical entry: Perpendicular

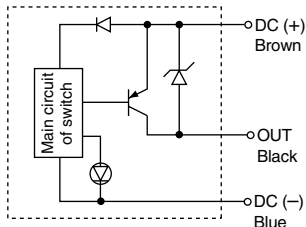


Auto Switch Internal Circuit

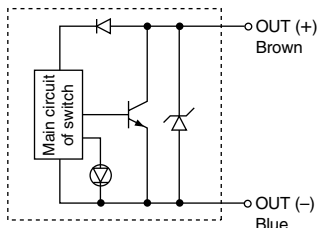
D-F7NV



D-F7PV



D-F7BV



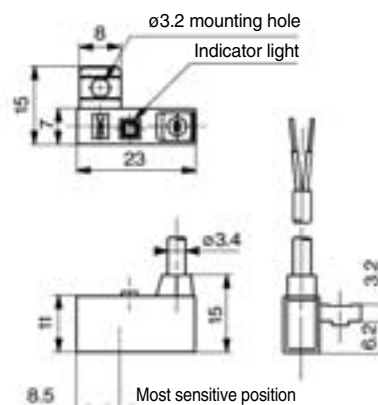
Mass

(g)

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

Dimensions

(mm)



Solid State Auto Switch Rail Mounting Style 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

• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

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

Connector



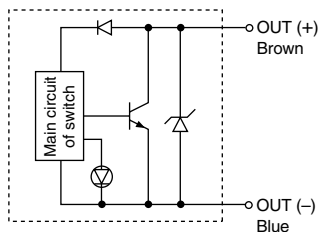
Caution

Precautions

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

Auto Switch Internal Circuit

D-J79C



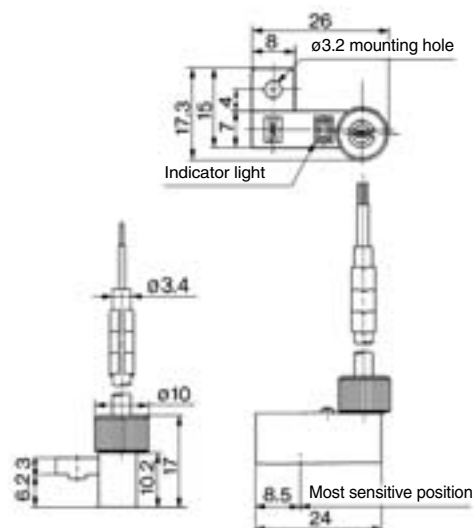
Mass

(g)

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

Dimensions

(mm)



D-□

Solid State Auto Switch Tie-rod Mounting Style D-F59/D-F5P/D-J59/D-J51



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-F5□, D-J5□ (With indicator light)				
Auto switch model	D-F59	D-F5P	D-J59	D-J51
Wiring type	3-wire		2-wire	
Output type	NPN	PNP	—	—
Applicable load	IC circuit, Relay, PLC		24 VDC Relay, PLC	AC 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)	80 to 260 VAC
Load current	40 mA or less	80 mA or less	5 to 40 mA	5 to 80 mA
Internal voltage drop	1.5 V or less (0.8 V or less at 10 mA load current)	0.8 V or less	4 V or less	14 V or less
Leakage current	100 μ A or less at 24 VDC		0.8 mA or less at 24 VDC	1 mA or less at 100 VAC 1.5 mA or less at 200 VAC
Indicator light	Red LED illuminates when turned ON.			
Standard	CE marking			

• Lead wires — Oilproof heavy-duty vinyl cord, ϕ 4, 0.3 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Mass

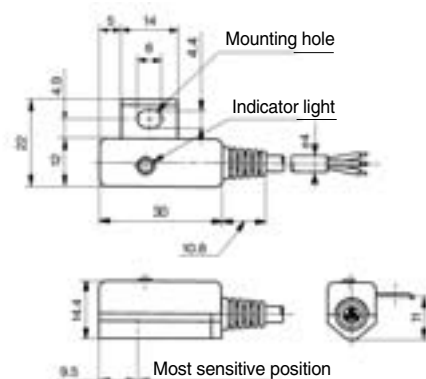
(g)

Auto switch model	D-F59	D-F5P	D-J59	D-J51
Lead wire length (m)	0.5	23	23	21
	3	81	81	71
	5	127	127	111

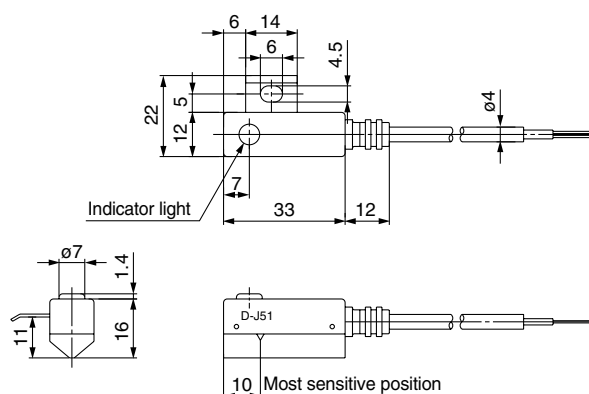
Dimensions

(mm)

D-F59/D-F5P/D-J59



D-J51

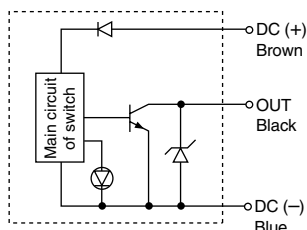


Grommet

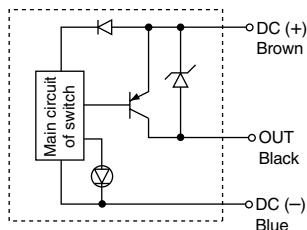


Auto Switch Internal Circuit

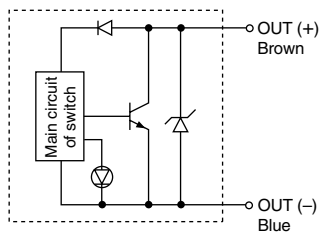
D-F59



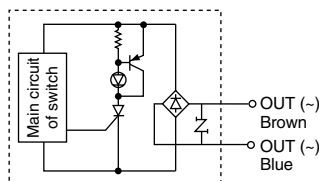
D-F5P



D-J59



D-J51



Solid State Auto Switch Direct Mounting Style 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 D-S992	D-S99V1 D-S99V2	D-S9P1 D-S9P2	D-S9PV1 D-S9PV2	D-T991 D-T992	D-T99V1 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		5 to 40 mA	
Internal voltage drop	1.5 V or less (0.8 V or less at load current 10 mA)		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	Red LED illuminates when turned ON.					
Standard	CE marking					



• Lead wires — Oilproof heavy-duty vinyl cord, ϕ 3.4, 0.2 mm², 3-wire (Brown, Black, Blue), 2-wire (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Grommet



D-□□□1

D-□□□2



Right-hand mounting

Left-hand mounting

D-□□□V1

D-□□□V2

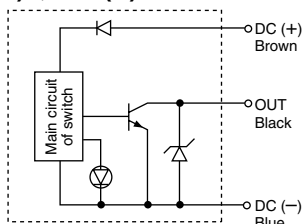


Right-hand mounting

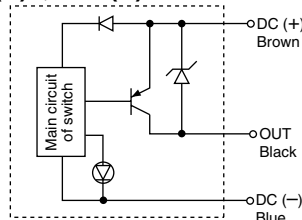
Left-hand mounting

Auto Switch Internal Circuit

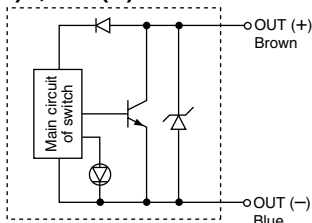
D-S99(V)1, S99(V)2



D-S9P(V)1, S9P(V)2



D-T99(V)1, T99(V)2



Mass

(g)

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

Dimensions

(mm)

D-S991: Right-hand mounting

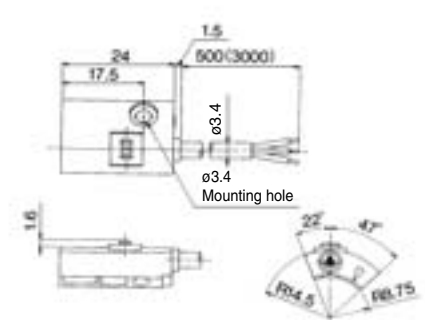
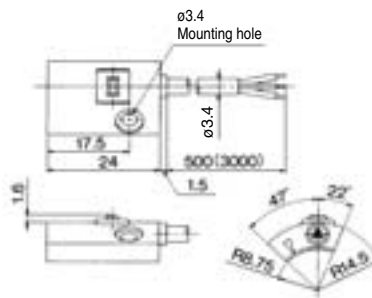
D-S9P1:

D-T991:

D-S992: Left-hand mounting

D-S9P2:

D-T992:



D-S99V1: Right-hand mounting

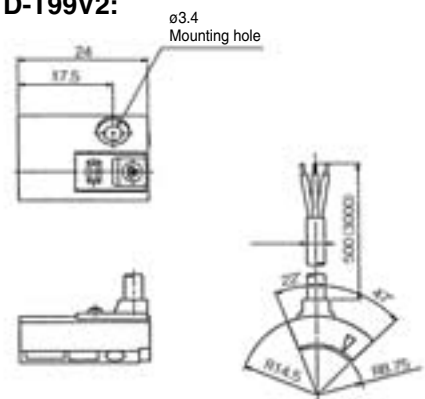
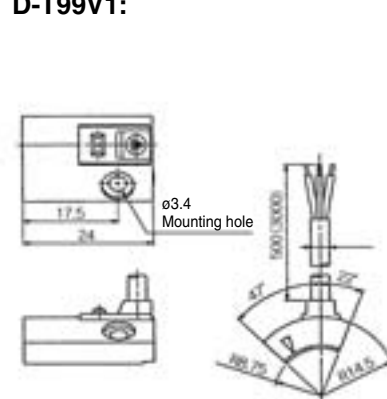
D-S9PV1:

D-T99V1:

D-S99V2: Left-hand mounting

D-S9PV2:

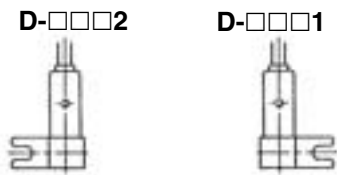
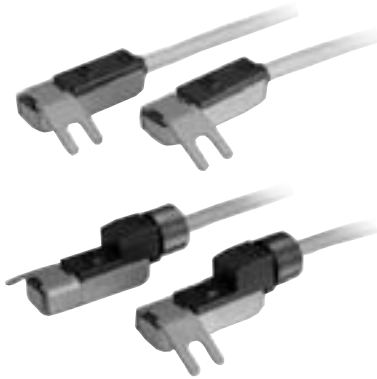
D-T99V2:



Solid State Auto Switch Direct Mounting Style D-S79/D-S7P/D-T79(C)



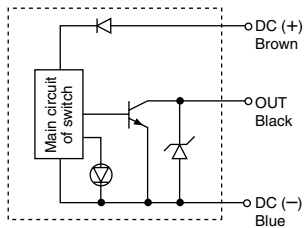
Grommet, Connector Electrical Entry: In-line



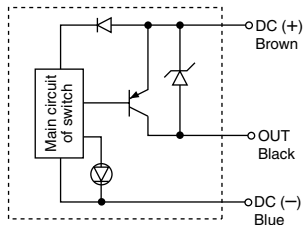
Left-hand mounting Right-hand mounting

Auto Switch Internal Circuit

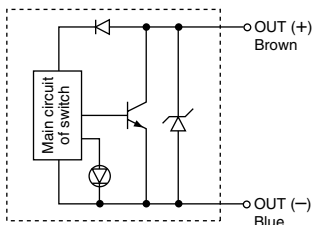
D-S791, S792



D-S7P1, S7P2



D-T791(C), T792(C)



Auto Switch Specifications



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

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 (0.8 V or less at 10 mA)	0.8 V or less	4 V or less
Leakage current	100 μ 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		



• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 3-wire (Brown, Black, Blue), 2-wire (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Mass

(g)

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

Dimensions

(mm)

D-S791: Right-hand mounting

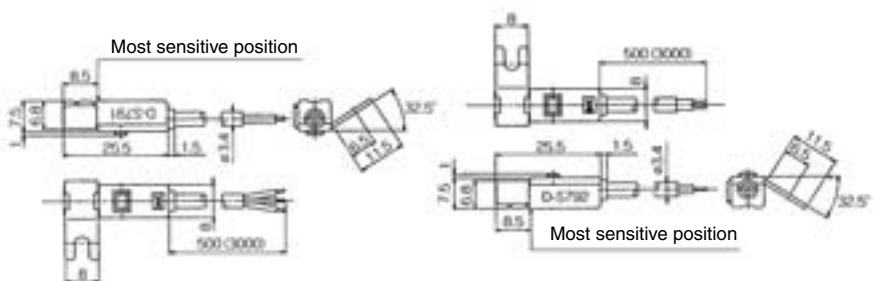
D-S7P1:

D-T791:

D-S792: Left-hand mounting

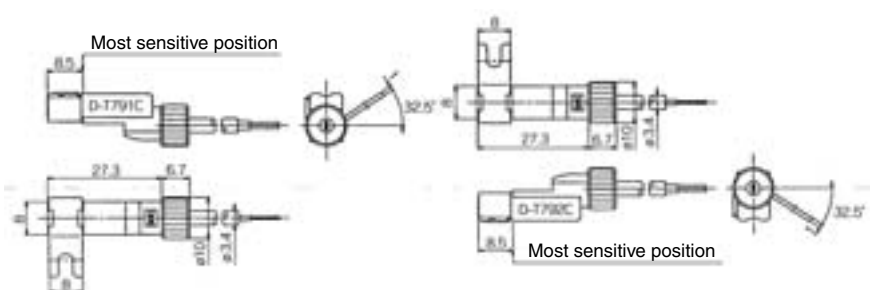
D-S7P2:

D-T792:



D-T791C: Right-hand mounting

D-T792C: Left-hand mounting



Solid State Auto Switch Direct Mounting Style 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 (0.8 V or less at 10 mA load current)	0.8 V or less	4 V or less
Leakage current	100 μ 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		

• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 2.7$

D-F8N, D-F8P 0.15 mm² x 3 cores (Brown, Black, Blue)

D-F8B 0.18 mm² x 2 cores (Brown, Blue)

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Grommet



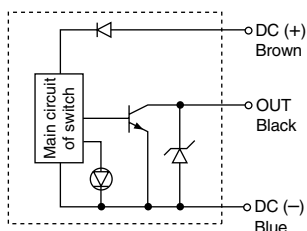
Caution

Precautions

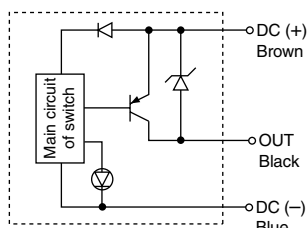
Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Internal Circuit

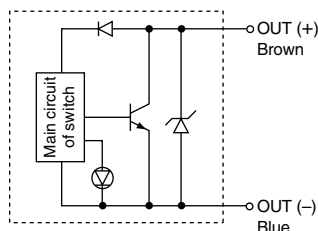
D-F8N



D-F8P



D-F8B



Mass

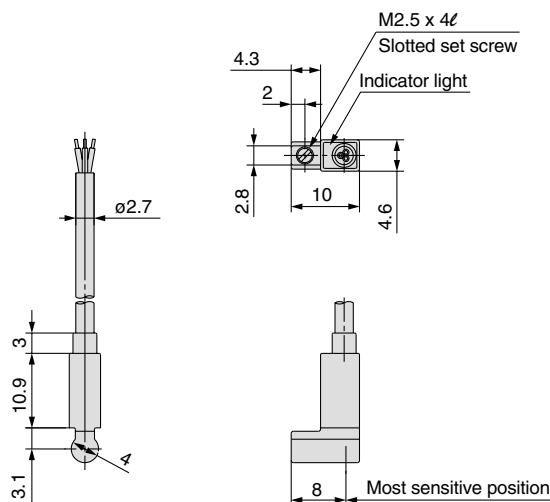
(g)

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

Dimensions

(mm)

D-F8N/D-F8P/D-F8B



D-□

Solid State Auto Switch Direct Mounting Style D-M9N(V)/D-M9P(V)/D-M9B(V)

Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Flexibility is 1.5 times greater than the conventional model (SMC comparison).
- Using flexible cable as standard spec.



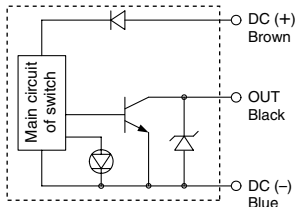
⚠ Caution

Precautions

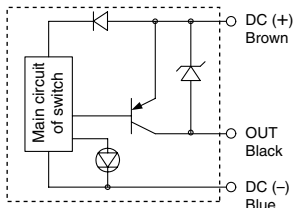
Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Internal Circuit

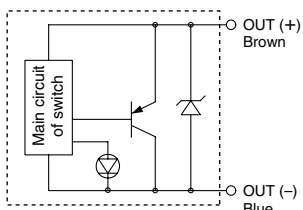
D-M9N, D-M9NV



D-M9P, D-M9PV



D-M9B, D-M9BV



Auto Switch Specifications



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

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					

- Lead wires — Oilproof, flexible heavy-duty vinyl cord: $\phi 2.7 \times 3.2$ ellipse, 0.15 mm², 2 cores (D-M9B(V)), 3 cores (D-M9N(V), D-M9P(V))

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Mass

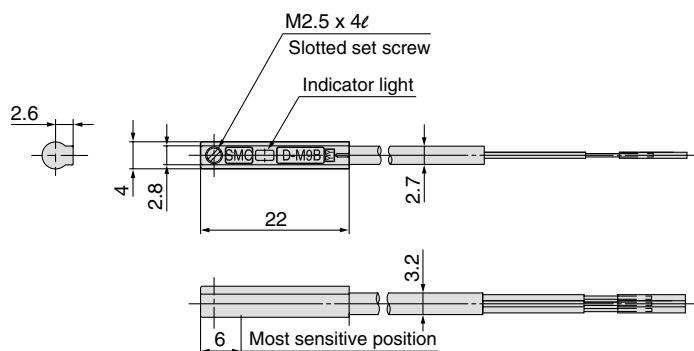
(g)

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

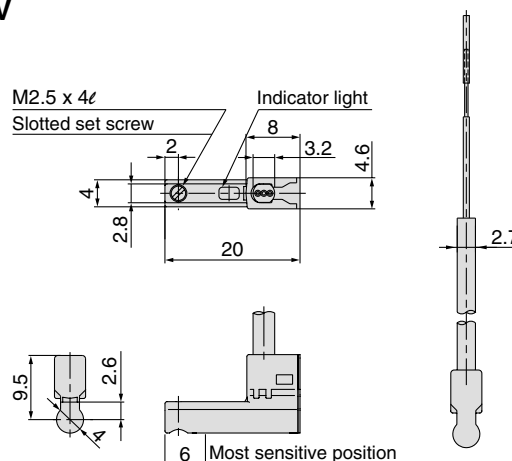
Dimensions

(mm)

D-M9□



D-M9□V



Solid State Auto Switch Direct Mounting Style D-Y59^A_B/D-Y69^A_B/D-Y7P(V)



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 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		80 mA or less		2.5 to 40 mA	
Internal voltage drop	1.5 V or less (0.8 V or less 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	Red LED illuminates when turned ON.					
Standard	CE marking					

• Lead wires — Oilproof, flexible heavy-duty vinyl cord, ø3.4, 0.15 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

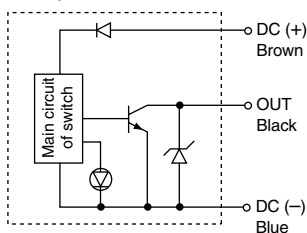
Grommet

Using flexible cable as standard spec.

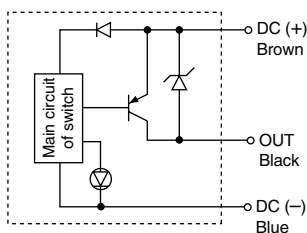


Auto Switch Internal Circuit

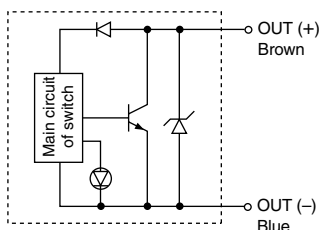
D-Y59A, D-Y69A



D-Y7P, D-Y7PV



D-Y59B, D-Y69B



Mass

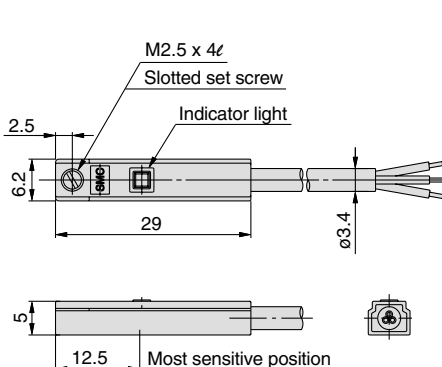
(g)

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

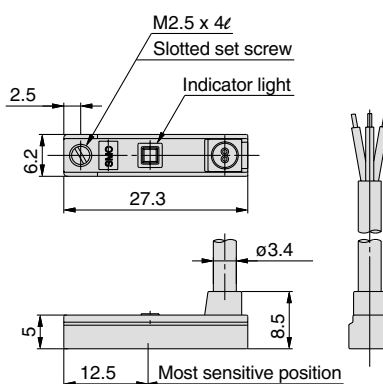
Dimensions

(mm)

D-Y59A/D-Y7P/D-Y59B



D-Y69A/D-Y7PV/D-Y69B



D-□

2-Color Indication Solid State Auto Switch Rail Mounting Style

D-F79W/D-F7PW/D-J79W



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-F7□W, 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 (0.8 V or less 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. Proper operating range Green LED illuminates.		
Standard	CE marking		

- Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Grommet

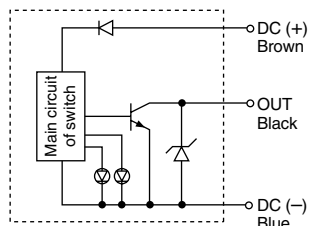
The proper operating range can be determined by the color of the light.

(Red → Green ← Red)

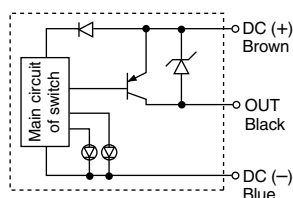


Auto Switch Internal Circuit

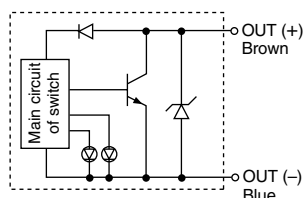
D-F79W



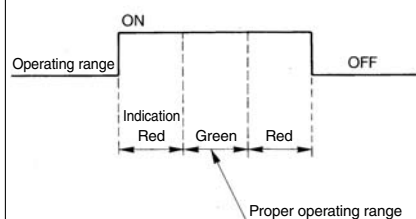
D-F7PW



D-J79W



Indicator light/Display method



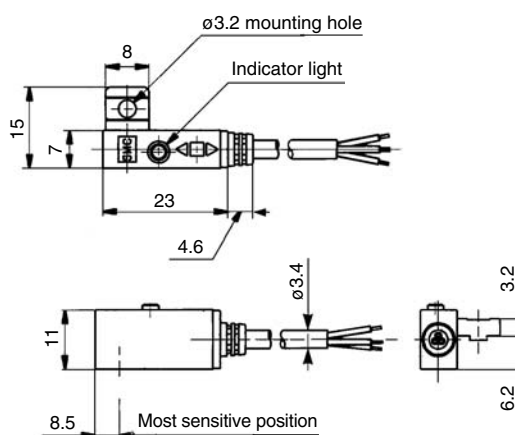
Mass

(g)

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

Dimensions

(mm)



2-Color Indication Solid State Auto Switch Rail Mounting Style D-F7NWV/D-F7BWV



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-F7□WV (With indicator light)		
Auto switch model	D-F7NWV	D-F7BWV
Wiring type	3-wire	2-wire
Output type	NPN	—
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	5 to 40 mA
Internal voltage drop	1.5 V or less (0.8 V or less at 10 mA load current)	4 V or less
Leakage current	100 μ A or less at 24 VD	0.8 mA or less at 24 VDC
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.	
Standard	CE marking	

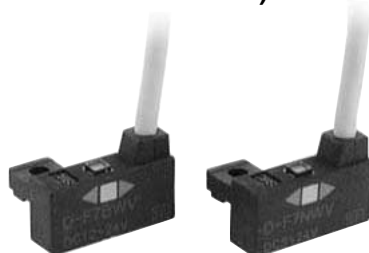
• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

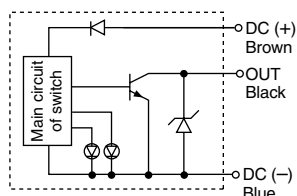
Grommet Electrical entry: Perpendicular

The proper operating range can be determined by the color of the light.
(Red → Green ← Red)

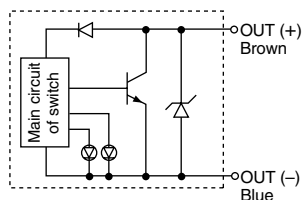


Auto Switch Internal Circuit

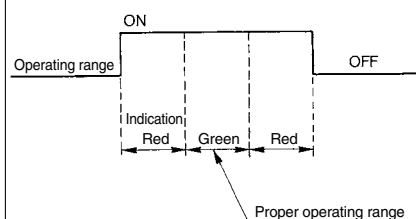
D-F7NWV



D-F7BWV



Indicator light/Display method



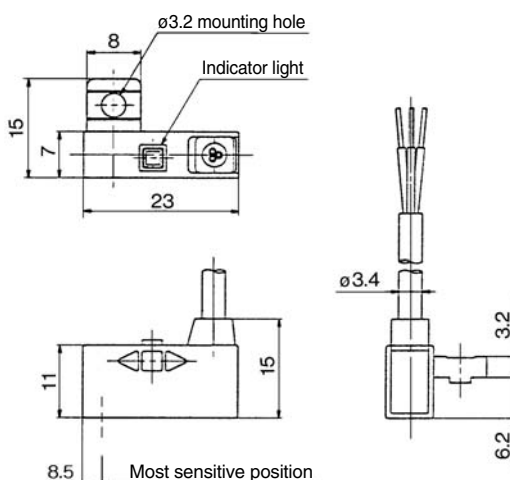
Mass

(g)

Auto switch model	D-F7NWV	D-F7BWV
Lead wire length (m)		
0.5	13	11
3	57	50
5	92	81

Dimensions

(mm)



D-□

2-Color Indication Solid State Auto Switch Direct Mounting Style

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



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

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 (0.8 V or less 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. Proper operating range Green LED illuminates.					
Standard	CE marking					

• Lead wires — Oilproof, flexible heavy-duty vinyl cord, ø3.4, 0.15 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Mass

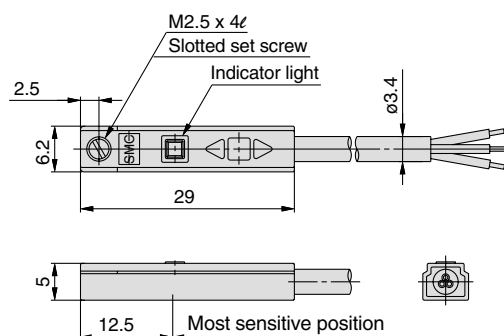
(g)

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

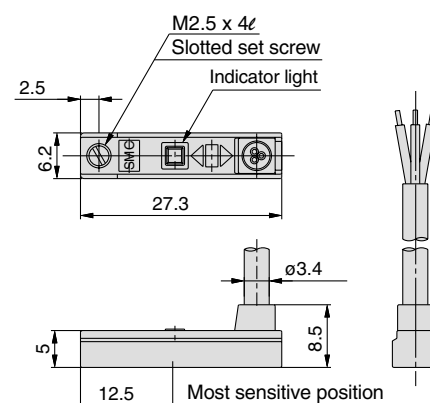
Dimensions

(mm)

D-Y7□W

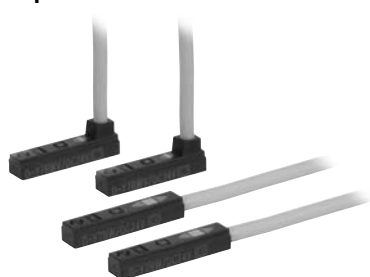


D-Y7□WV



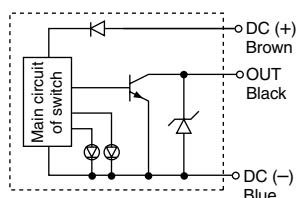
Grommet

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

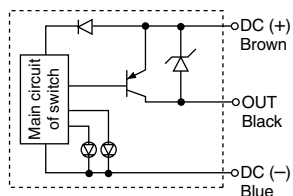


Auto Switch Internal Circuit

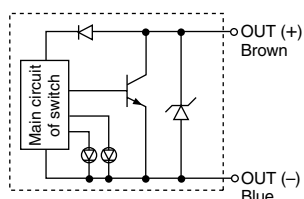
D-Y7NW, Y7NWV



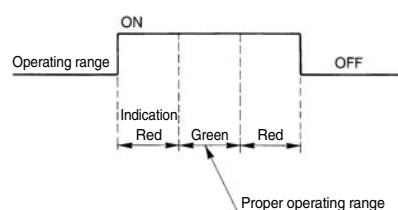
D-Y7PW, Y7PWV



D-Y7BW, Y7BWV



Indicator light/Display method



2-Color Indication Solid State Auto Switch Direct Mounting Style

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



RoHS

Grommet

- 2-wire load current is reduced (2.5 to 40 mA).
- Flexibility is 1.5 times greater than the conventional model (SMC comparison).
- Using flexible cable as standard spec.
- The proper operating range can be determined by the color of the light. (Red → Green ← Red)



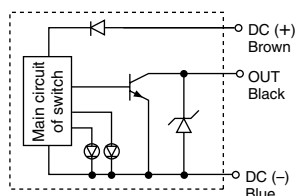
Caution

Precautions

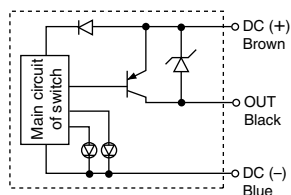
Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Internal Circuit

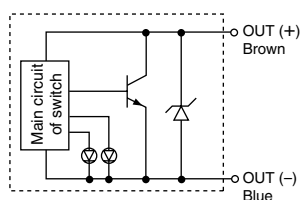
D-M9NW, D-M9NWV



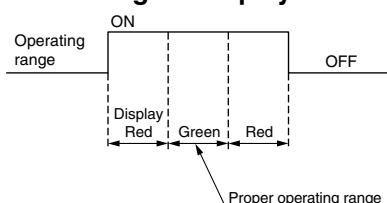
D-M9PW, D-M9PWV



D-M9BW, D-M9BWV



Indicator light / Display method



Auto Switch Specifications



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

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. Proper operating range Green LED illuminates.					
Standard	CE marking					

- Lead wires — Oilproof, flexible heavy-duty vinyl cord: $\phi 2.7 \times 3.2$ ellipse, 0.15 mm², 2 cores (D-M9BW(V)), 3 cores (D-M9NW(V), D-M9PW(V))

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Mass

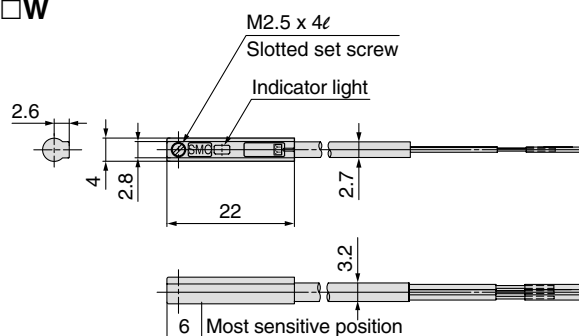
(g)

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

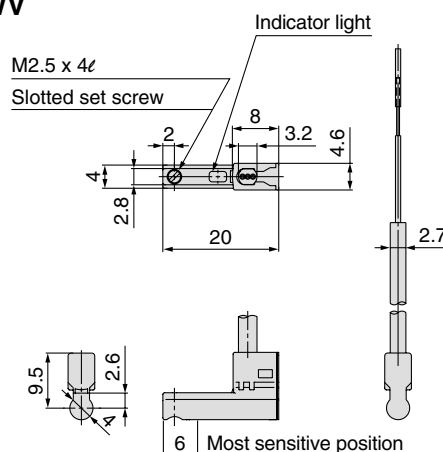
Dimensions

(mm)

D-M9□W



D-M9□WV



2-Color Indication Solid State Auto Switch Tie-rod Mounting Style

D-F59W/D-F5PW/D-J59W



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 (0.8 V or less at 10 mA load current)	0.8 V or less	4 V or less
Leakage current	100 μ A or less at 24 VDC		0.8 mA or less at 24 VDC
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.		
Standard	CE marking		

• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 4$, 0.3 mm², 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

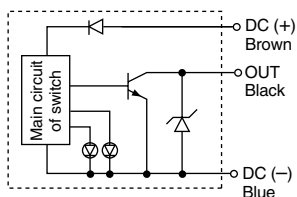
Grommet

The proper operating range can be determined by the color of the light.
(Red → Green ← Red)

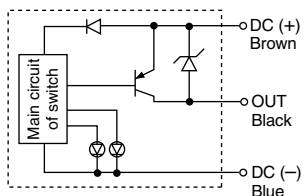


Auto Switch Internal Circuit

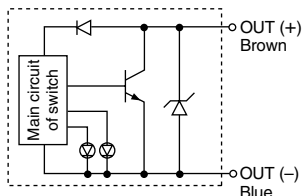
D-F59W



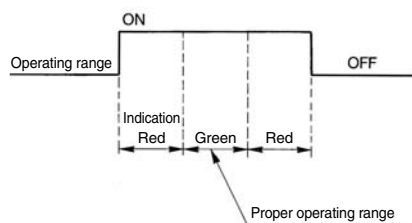
D-F5PW



D-J59W



Indicator light/Display method



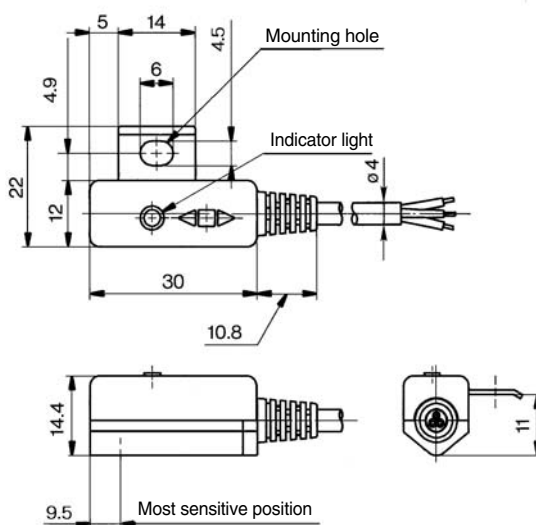
Mass

(g)

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

Dimensions

(mm)



2-Color Indication with Diagnostic Output Solid State Auto Switch: Rail Mounting Style D-F79F



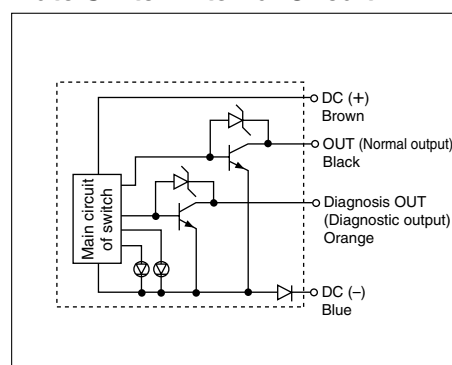
Grommet

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

- The optimum operating position can be determined by the color of the light.
(Red → Green ← Red)



Auto Switch Internal Circuit



Auto Switch Specifications



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

PLC: Programmable Logic Controller

D-F79F (With indicator light)	
Auto switch model	D-F79F
Wiring type	4-wire
Output type	NPN
Diagnostic output type	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 μ A or less at 24 VDC
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.
Standard	CE marking

- Lead wires — Oilproof heavy-duty vinyl cord: $\phi 3.4$, 0.2 mm² x 4 cores (Brown, Black, Orange, Blue), 0.5 m

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

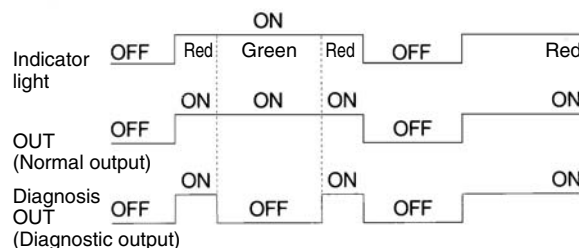
Mass

(g)

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

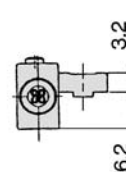
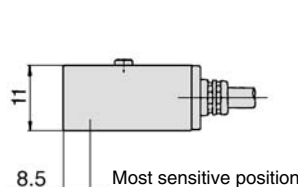
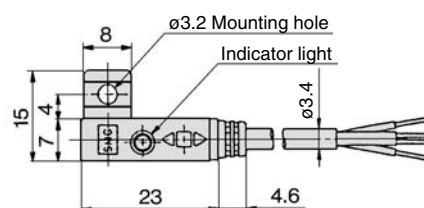
Diagnostic Output Operation

The diagnostic output signal is output within an unsteady detecting 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 Indication with Diagnostic Output Solid State Auto Switch: Tie-rod Mounting Style 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 an unsteady detecting area, the difference of detecting position can be confirmed by the side of PLC (Programmable Logic Controller).

- The optimum operating position can be determined by the color of the light. (Red → Green ← Red)



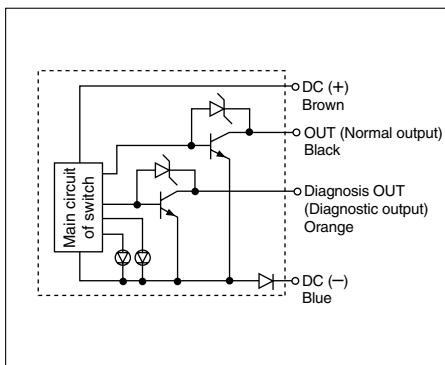
Auto Switch Specifications

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 μ A or less at 28 VDC
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.
Standard	CE marking

- Lead wires — Oilproof heavy-duty vinyl cord, $\phi 4$, 0.2 mm², 4 cores (Brown, Black, Orange, Blue), 0.5 m
- Note 1) Refer to page 764 for solid state auto switch common specifications.
- Note 2) Refer to page 764 for lead wire lengths.

Auto Switch Internal Circuit



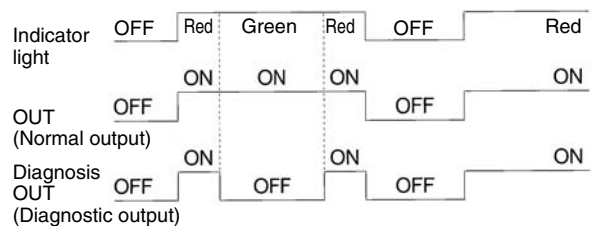
Mass

(g)

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

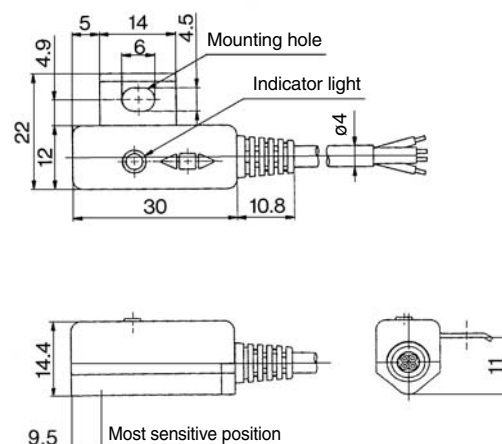
Diagnostic Output Operation

The diagnostic output signal is output within an unsteady detecting 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 Indication Solid State Auto Switch: Rail Mounting Style D-F7BA(V)L



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

Auto Switch Specifications

PLC: Programmable Logic Controller

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

Auto switch model	D-F7BAL	D-F7BAVL
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. Proper operating range Green LED illuminates.	
Standard	CE marking	

• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 2 cores (Brown, Blue), 3 m (Standard)
Note 1) Refer to page 764 for solid state auto switch common specifications.
Note 2) Refer to page 764 for lead wire lengths.

Mass

(g)

Auto switch model		D-F7BA	D-F7BAV
Lead wire length (m)	0.5	—	—
	3	50	50
	5	81	81

Grommet

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

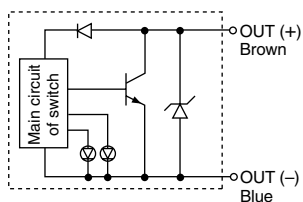


Caution

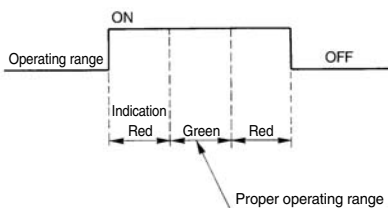
Precautions

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

Auto Switch Internal Circuit



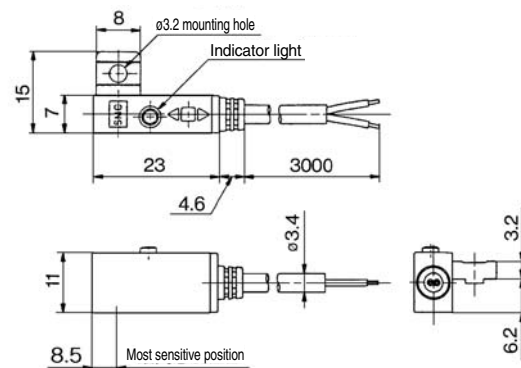
Indicator light/Display method



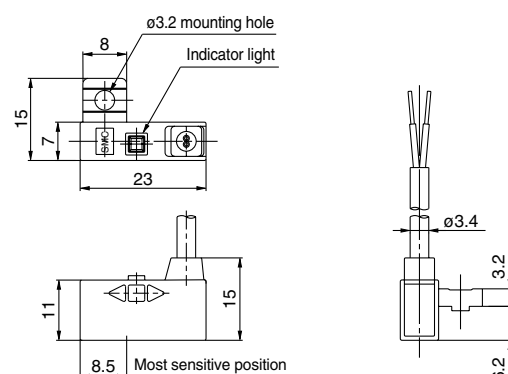
Dimensions

(mm)

D-F7BAL



D-F7BAVL



Water Resistant 2-Color Indication Solid State Auto Switch: Tie-rod Mounting Style D-F5BAL



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-F5BAL (With indicator light)	
Auto switch model	D-F5BAL
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. Proper operating range Green LED illuminates.
Standard	CE marking

- Lead wires — Oilproof heavy-duty vinyl cord, $\phi 4$, 0.3 mm², 2 cores (Brown, Blue), 3 m (Standard)
- Note 1) Refer to page 764 for solid state auto switch common specifications.
- Note 2) Refer to page 764 for lead wire lengths.

Grommet

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



Caution

Precautions

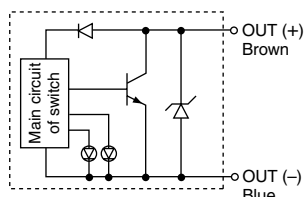
Please consult with SMC if using coolant liquid other than water based solution.

Mass

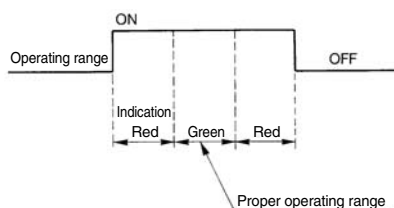
(g)

Auto switch model	D-F5BA	
Lead wire length (m)	0.5	—
	3	71
	5	111

Auto Switch Internal Circuit

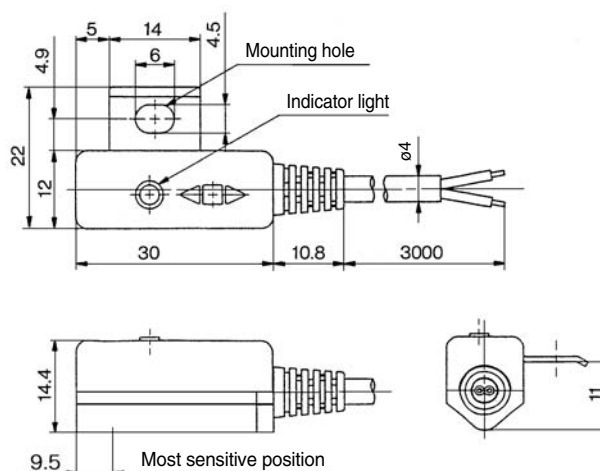


Indicator light/Display method



Dimensions

(mm)



Water Resistant 2-Color Indication Solid State Auto Switch: Direct Mounting Style D-Y7BAL



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-Y7BAL (With indicator light)	
Auto switch model	D-Y7BAL
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 or less
Internal voltage drop	4 V or less
Leakage current	0.8 mA or less at 24 VDC
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.
Standard	CE marking

• Lead wires — Oilproof, flexible heavy-duty vinyl cord, $\phi 3.4$, 0.15 mm², 2 cores (Brown, Blue), 3 m (Standard)

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Grommet

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



Caution

Precautions

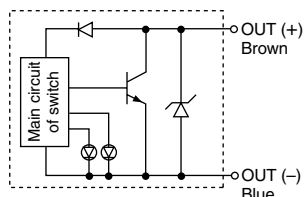
Please consult with SMC if using coolant liquid other than water based solution. Detection characteristics are the same as D-Y5□ and D-Y7□W, but the detection area length is different.

Mass

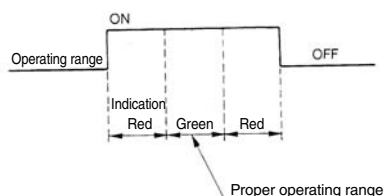
(g)

Auto switch model	D-Y7BA	
Lead wire length (m)	0.5	—
	3	54
	5	88

Auto Switch Internal Circuit

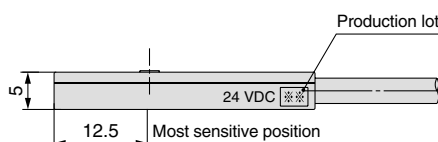
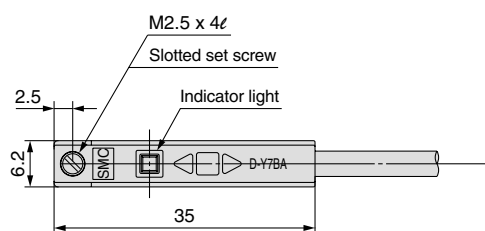


Indicator light/Display method



Dimensions

(mm)



D-□

Water Resistant 2-Color Indication Solid State Auto Switch: Direct Mounting Style 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.



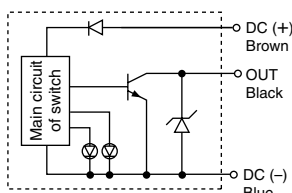
⚠ Caution

Precautions

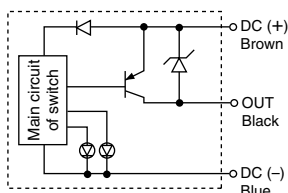
Fix the auto switch with the existing screw installed on the auto switch body. The auto switch may be damaged if a screw other than the one supplied is used.

Auto Switch Internal Circuit

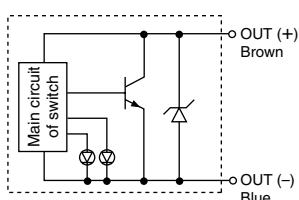
D-M9NA, D-M9NAV



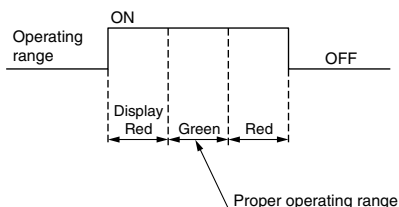
D-M9PA, D-M9PAV



D-M9BA, D-M9BAV



Indicator light/Display method



Auto Switch Specifications

PLC: Programmable Logic Controller

D-M9□A(V) (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. Proper operating range Green LED illuminates.					
Standard	CE marking					

- Lead wires — Oilproof, flexible heavy-duty vinyl cord: $\phi 2.7 \times 3.2$ ellipse, 0.15 mm², 2 cores (D-M9BA(V)), 3 cores (D-M9NA(V), D-M9PA(V))

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Mass

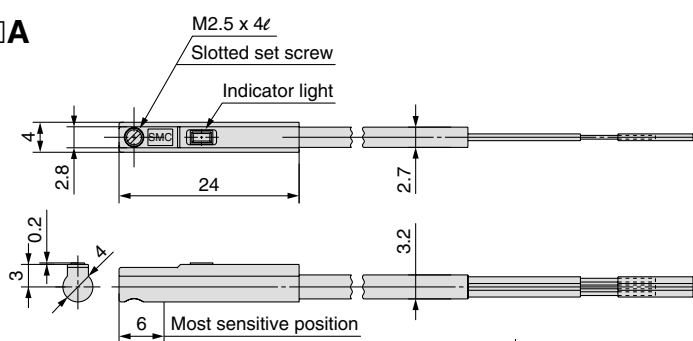
(g)

Auto switch model	D-M9NA(V)	D-M9PA(V)	D-M9BA(V)
Lead wire length (m)	0.5	8	8
	1	14	14
	3	41	41
	5	68	68

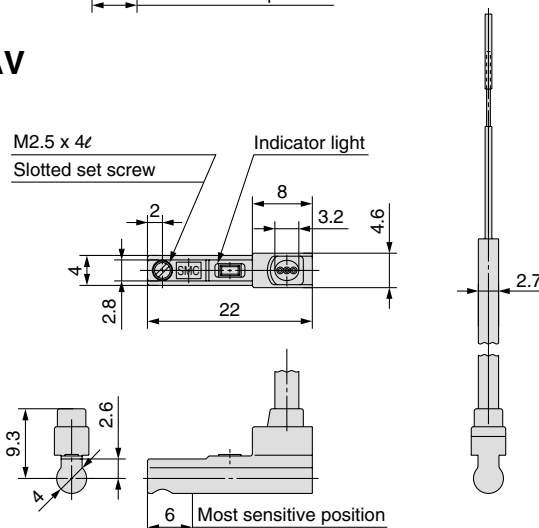
Dimensions

(mm)

D-M9□A



D-M9□AV



Solid State Auto Switch with Timer Rail Mounting Style D-F7NTL



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-F7NTL (With indicator light)	
Auto switch model	D-F7NTL
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

• Lead wires — Oilproof heavy-duty vinyl cord, ø3.4, 0.2 mm², 3 cores (Brown, Black, Blue), 3 m (Standard)

Note 1) Refer to page 764 for solid state auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

Grommet

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

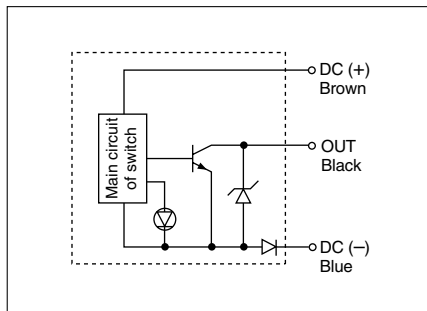


Mass

(g)

Auto switch model	D-F7NT	
Lead wire length (m)	0.5	—
	3	57
	5	92

Auto Switch Internal Circuit



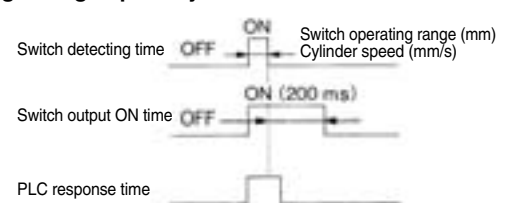
Timer Operation

Detection of intermediate positioning for high-speed cylinder

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

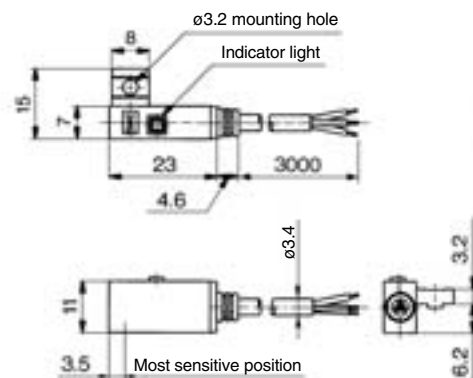
Ex.) Cylinder speed — 1000 mm/sec.
PLC response time — 0.1 sec.
Detecting point dispersion — Within 100 mm (= 1000 mm/sec. x 0.1 sec.)

Take PLC response time into consideration when using.



Dimensions

(mm)



Solid State Auto Switch with Timer Tie-rod Mounting Style D-F5NTL



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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-F5NTL (With indicator light)	
Auto switch model	D-F5NTL
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

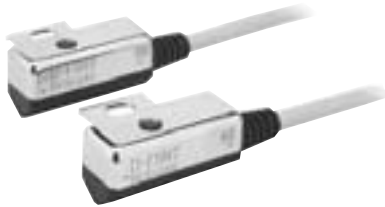
• Lead wires — Oilproof heavy-duty vinyl cord, ø4, 0.3 mm², 3 cores (Brown, Black, Blue), 3 m (Standard)

Note 1) Refer to page 764 for solid state auto switch common specifications.

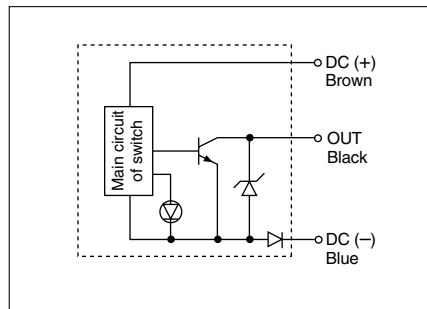
Note 2) Refer to page 764 for lead wire lengths.

Grommet

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



Auto Switch Internal Circuit



Mass

(g)

Auto switch model	D-F5NT	
Lead wire length (m)	0.5	—
	3	81
	5	127

Timer Operation

Detection of intermediate positioning for high-speed cylinder

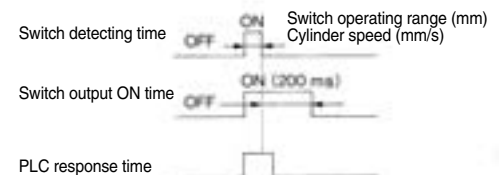
Detecting point dispersion occurs due to response time of PLC (sequencer); e.g. scanning.

Ex.) Cylinder speed — 1000 mm/sec.

PLC response time — 0.1 sec.

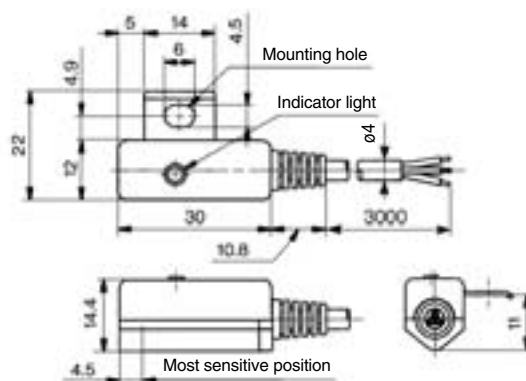
Detecting point dispersion — Within 100 mm (= 1000 mm/sec. x 0.1 sec.)

Take PLC response time into consideration when using.



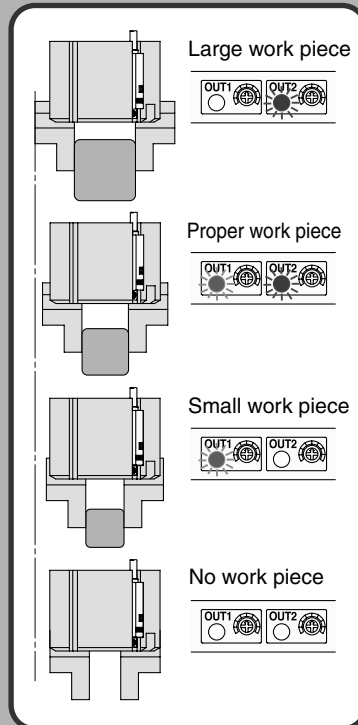
Dimensions

(mm)

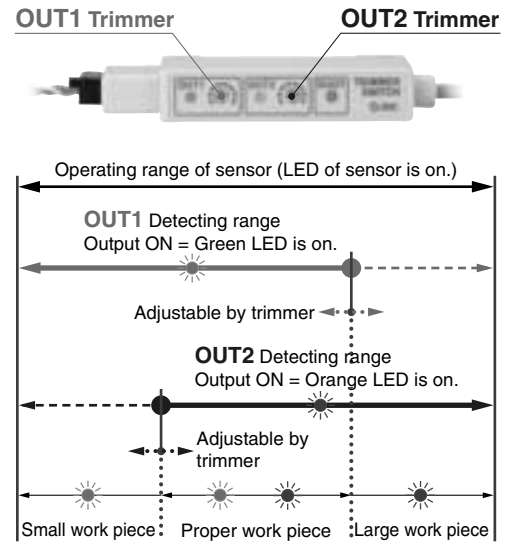


Trimmer Auto Switch

Series **D-□7K/D-R□K**



OUT1 and OUT2 are adjustable separately.

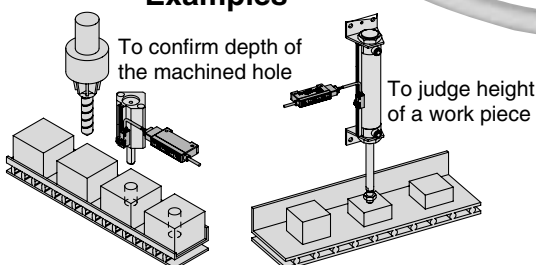


Minimum width to detect
0.5 mm
With one switch, various sized work pieces can be detected by the difference of more than 0.5 mm.
* From 0.5 mm to detectable width dependant on applied actuator.

One auto switch allows work pieces to be distinguished easily.



Examples



- **Can be mounted on a standard actuator.**
Direct mounting / Rail mounting
- **Two mounting types (Amplifier unit)**
DIN rail mounting / Direct mounting
- **Joining of connector**
Sensor and amplifier can be connected without restriction.
- **IP67 (Sensor unit)**
IP40 for amplifier

D-□

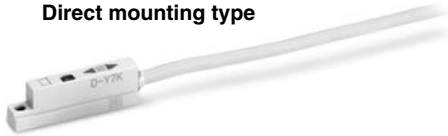
Trimmer Auto Switch

Series **D-□7K/D-R□K**



Sensor unit

Direct mounting type



Rail mounting type

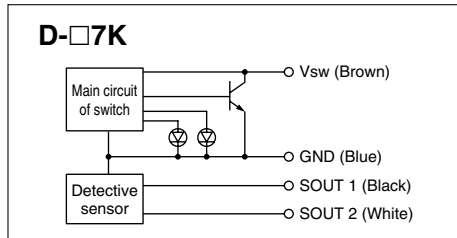


Amplifier unit

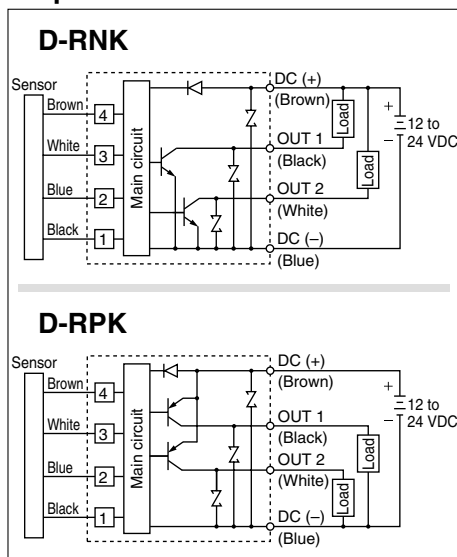


Internal Circuit

Sensor Unit



Amplifier Unit



Specifications

Sensor Unit

Model	D-F7K	D-Y7K
Mounting	Rail mounting	Direct mounting
Applicable amplifier unit	D-RNK, D-RPK	
Indicator light	Operating position: Red light is ON. Proper operating range: Green light is ON.	
Electrical entry	Grommet	
Lead wire	Oilproof heavy-duty vinyl cord $\phi 3.5$ 0.14 mm ² 4 cores 3 m With one e-con connector ^{Note)}	
Impact resistance	980 m/s ²	
Insulation resistance	50 M Ω or more (500 VDC Mega) between lead wire and case	
Withstand voltage	1000 VAC for 1 min. (between lead wire and case)	
Ambient temperature	-10 to 60°C	
Enclosure	IP67	
Mass	58 g (with connector)	
Standard	CE marking	

Note) The e-con connector is not attached to the lead wire. They will be supplied loose in the same shipment.

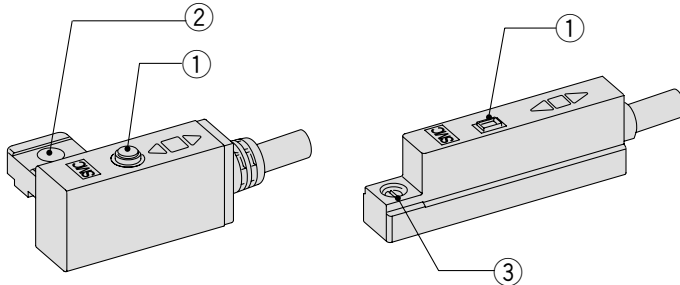
Amplifier Unit (with Sensor Unit)

PLC: Programmable Logic Controller

Model	D-RNK	D-RPK
Applicable sensor unit	D-F7K, D-Y7K	
Application	For relay and PLC	
Power supply voltage	12 to 24 VDC	
Current consumption	40 mA or less	
Output specification	NPN open collector 2 outputs	PNP open collector 2 outputs
Load voltage	28 VDC or less	—
Load current	80 mA or less/1 output	
Internal voltage drop	1.5 V or less	
Leakage current	100 μ A or less/1 output	
Response time	1 ms or less	
Indicator light	READY: Red LED illuminates when the piston position detected. (When the sensor is connected). OUT 1: Green LED illuminates when ON. OUT 2: Orange LED illuminates when ON.	
Electrical entry	Connection to sensor	e-con connector
	Power supply/output cable	Grommet
Lead wire	Oilproof heavy-duty vinyl cable $\phi 3.5$ 0.14 mm ² 4 cores 3 m	
Impact resistance	98 m/s ²	
Insulation resistance	50 M Ω or more (500 VDC Mega) between lead wire and case	
Withstand voltage	1000 VAC for 1 min. (between lead wire and case)	
Ambient temperature	-10 to 60°C	
Enclosure	IP40	
Mass	70 g	
Standard	CE marking	

Descriptions

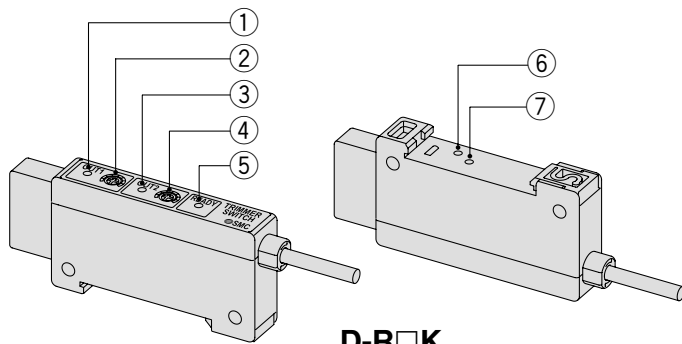
Sensor unit



D-F7K

D-Y7K

Amplifier unit



D-R□K

Sensor Unit

1	Indicator light	Red light turns ON when sensor detects the magnet field. Green light is ON during the proper operating range to detect the magnetic field (including most sensitive position).
2	ø3.2 mounting hole	
3	M2.5 x 4L slotted set screw	Fixes the sensor to the actuator.

Amplifier Unit

1	Output (OUT1) indication: Green	Illuminates when OUT1 outputs.
2	OUT1 adjusting trimmer	Adjusts the output range of OUT1 when sensor unit detects the magnetic field.
3	Output (OUT2) indication: Orange	Illuminates when OUT2 outputs.
4	OUT2 adjusting trimmer	Adjusts the output range of OUT2 when sensor unit detects the magnetic field.
5	Confirmation of detection at sensor unit (READY): Red	Illuminates when sensor unit is detecting the magnetic field. While its lighting, output ranges of OUT1 and OUT2 are adjustable.
6	Offset adjusting trimmer (ADJ)	Adjusts the sensor unit at the time of connection. Once adjusts, no need to re-adjust as long as the sensor unit is not replaced. Adjustment must be undertaken while the sensor unit is removed from the actuator. Refer to the operation manual for details.
7	Confirmation of offset adjustment (OFFSET): Red	Illuminates when offset adjustment is completed.

Refer to the operation manual for how to adjust/set.

Applicable Actuators and Operation Range (Angle)

The operating ranges are provided as guidelines including the hysteresis and are not guaranteed value. Please consult with SMC for alternative actuators other than those shown below.

Sensor Unit D-Y7K

Air Gripper

(mm or °)

Model		Bore size										
		10	12	16	20	25	32	40	50	63	80	100
Parallel gripper	MHZ2	4.0	—	5.0	7.0	7.0	8.0	8.5	—	—	—	—
Parallel gripper	MHZL2	6.0	—	7.0	10.0	11.0	—	—	—	—	—	—
Wide opening	MHL2	7.0	—	8.0	8.5	10.5	11.0	12.5	—	—	—	—
Parallel gripper	MHS2 (2 finger)	—	—	—	—	—	6.5	7.0	7.5	8.5	—	—
Parallel gripper	MHS3 (3 finger) MHS (L) 3	—	—	—	—	—	6.5	7.0	7.5	8.0	—	—
Parallel gripper	MHS4 (4 finger)	—	—	—	—	—	6.5	7.0	7.5	8.5	—	—
Angular gripper	MHC2	30° to -10°	—	30° to -10°	30° to -10°	22.5° to -10°	—	—	—	—	—	—
180° opening/closing	MHW2	—	—	—	88° to -5°	54° to -6°	58° to -5°	41° to -5°	30° to -4°	—	—	—

Note) The operating range for grippers is measured when both ends are open.

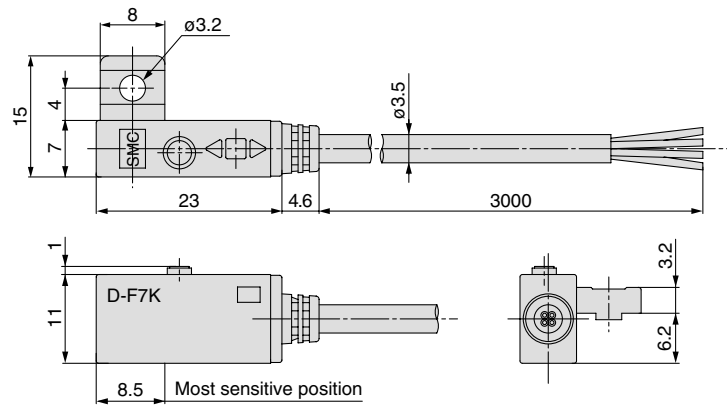
Series D-□7K/D-R□K

Dimensions

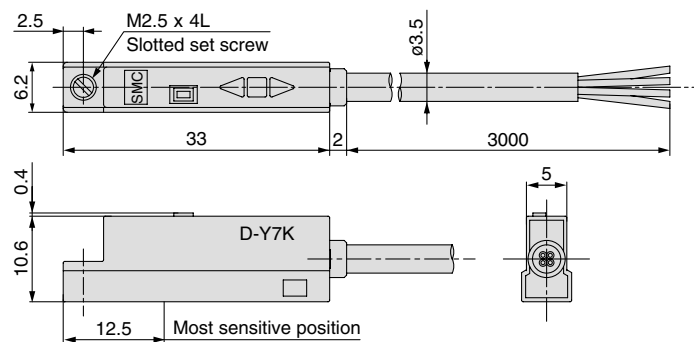
(mm)

Sensor unit

D-F7K

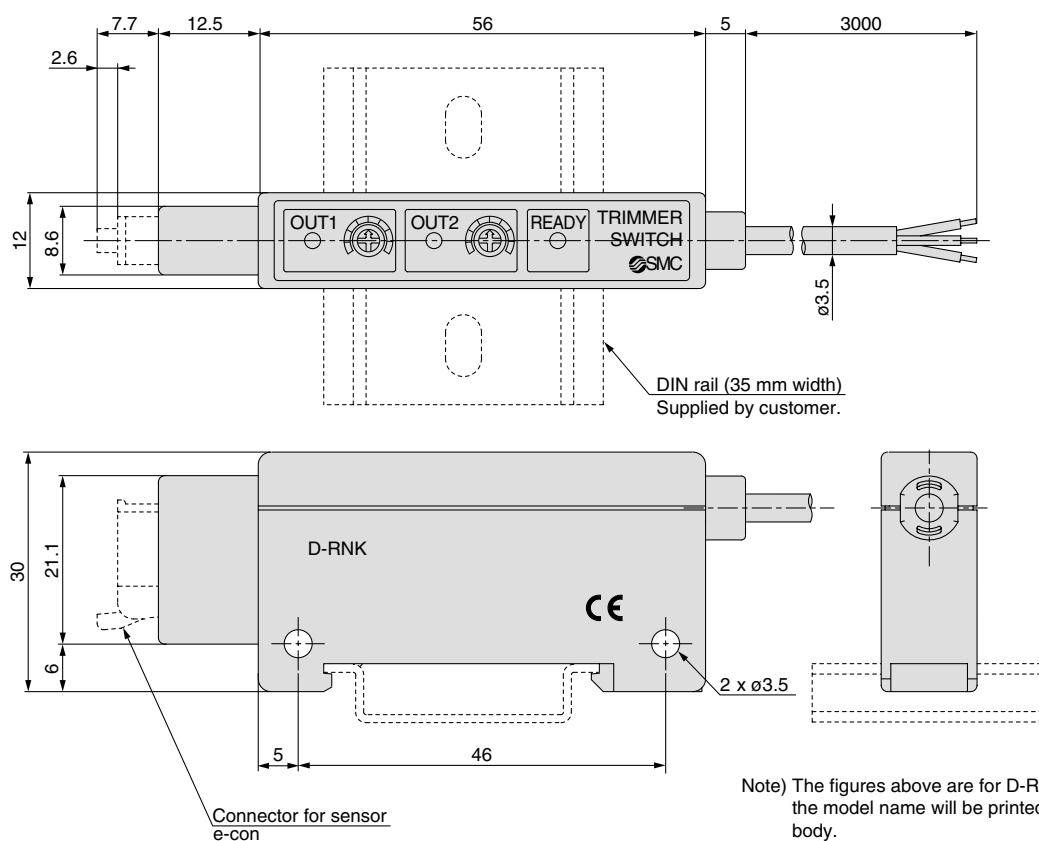


D-Y7K



Amplifier unit

D-R□K



Note) The figures above are for D-RNK. For D-RPK, the model name will be printed instead on the body.



Trimmer Auto Switch

Specific Product Precautions 1

Be sure to read before handling.

Refer to front matters 38 and 39 for Safety Instructions and pages 362 to 365 for the Auto Switch Common Precautions.

Design and Selection

Warning

1. Confirm the specifications.

Read the specifications carefully and use this product appropriately. The product may be damaged or malfunction if it is used outside the range of specifications of current load, voltage, temperature or impact.

2. Cautions for use in an interlock circuit.

When an auto switch is used for an interlock signal requiring high reliability, devise a double interlock system to avoid trouble by providing a mechanical protection function, or by also using another switch (sensor) together with the trimmer auto switch. Also perform periodic maintenance and confirm proper operation.

Caution

1. Take precautions when multiple cylinders are used close together.

When more than 2 trimmer auto switch cylinders are used in close proximity, maintain a minimum actuator interval of 40 mm or more. (When the allowable interval is indicated for each cylinder series, use the specified values.) Magnetic field interference may cause the trimmer auto switches to malfunction.

2. Keep the wiring as short as possible.

Use a wire 3 m or shorter between the sensor and amplifier. Although wire length of power supply/output cable should not affect switch function, use a wire 100 m or shorter.

3. Take precautions for the internal voltage drop of the switch.

Auto switches may not operate properly depending on the connected equipment.

4. Take measures for rotational stoppage of the piston rod.

Take measures for rotational stoppage of the piston rod when designing by guide, etc. Or use non-rotating type SMC products. The operation may be unstable.

Mounting and Adjustment

Caution

1. Do not drop or bump.

Do not drop, bump or apply excessive impacts (980 m/s² or more for sensor unit and 98 m/s² or more for amplifier unit) while handling.

Although the trimmer auto switch body may not be damaged, the inside of the trimmer auto switch could be damaged and cause a malfunction.

Wiring

Caution

1. Avoid repeatedly bending or stretching lead wires.

Broken lead wires will result from applying bending stress or stretching forces to the lead wires.

2. Be sure to connect the connector for sensor to the amplifier before power is applied.

3. Do not allow short circuit of loads.

Output is automatically stopped when the protection circuit is working, as the output unit registers any excess current flow, if loads are short circuited. Should this occur, shut off the power supply, remove the cause of this excess current flow and switch on the power again. Take special care to avoid reverse wiring between the power supply line (brown) and the output line (black, white).

4. Avoid incorrect wiring.

If the connections are reversed (power supply line + and power supply line -), the trimmer auto switches will be protected by a protection circuit. However, if the power supply line (-) is connected to the black, white wire, the trimmer auto switches will be damaged.

Operating Environment

Warning

1. Never use in an atmosphere with explosive gases.

The structure of trimmer auto switches is not designed to prevent explosion. Never use in an atmosphere with an explosive gas since this may cause a serious explosion.

Caution

1. Do not use in an area where a magnetic field is generated.

Trimmer auto switches will malfunction or magnets inside cylinders will become demagnetized.

2. Do not use in an environment where the trimmer auto switch will be continually exposed to water.

Although the sensor units of trimmer auto switches satisfy the IEC standard IP67 structure, do not use trimmer auto switches in applications where continually exposed to water splash or spray. Poor insulation or swelling of the potting resin inside trimmer auto switches may cause malfunction.

(Amplifier part D-RNK and RPK: IP40)

3. Do not use in an environment with oil or chemicals.

Please consult with SMC if trimmer auto switches will be used in an environment with coolant, cleaning solvent, various oils or chemicals. If trimmer auto switches are used under these conditions for even a short time, they may be adversely affected by improper insulation, malfunction due to swelling of the potting resin, or hardening of the lead wires.

4. Take measures against freezing when operating at 5°C or less.



Trimmer Auto Switch Specific Product Precautions 2

Be sure to read before handling.

Refer to front matters 38 and 39 for Safety Instructions and pages 362 to 365 for the Auto Switch Common Precautions.

Maintenance

Warning

1. Perform the following maintenance periodically in order to prevent possible danger due to unexpected trimmer auto switch malfunction.

- 1) Secure and tighten trimmer auto switch mounting screws.
If screws become loose or the mounting position is dislocated, retighten them after readjusting the mounting position.
- 2) Confirm that there is no damage to lead wires.
To prevent faulty insulation, replace trimmer auto switches or repair lead wires, etc., if damage is discovered.

Other

Caution

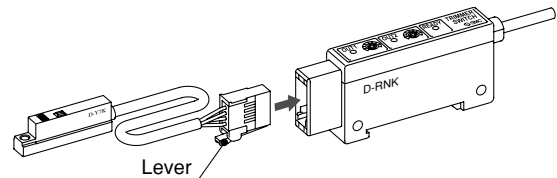
1. Please consult with SMC concerning water resistance, elasticity of lead wires, and usage at welding sites, etc.

Wiring

Caution

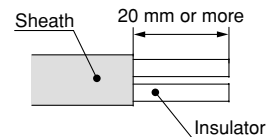
1. Connection and removal of connector

- Hold the lever and connector body with two fingers and insert the connector straight into the pin until it is locked with a click sound.
- To remove the connector, pull it out straight while pressing the lever with one finger.



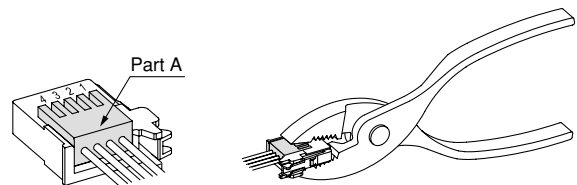
2. Connection of sensor connector

- Cut the sensor lead wire as illustrated to the right.
- Referring to the table below, insert each lead wire of the cable at the position marked with a number corresponding to the color of the lead wire.



Connector no.	Wire core color
1	Black (SOUT1)
2	Blue (GND)
3	White (SOUT2)
4	Brown (Vsw)

- Confirm that the numbers on the connector match the colors of the lead wires and that they are inserted to the bottom. Press part A by hand for temporary fixing.
- Press in the central part of Part A vertically with a tool such as pliers.
- A sensor connector cannot be taken apart for reuse once it is crimped. If the lead wire arrangement is incorrect or if the wire insertion fails, use a new sensor connector.



- Use a sensor connector, ZS-28-CA-3 (1 pc.) or e-con connectors as shown below.

Manufacturer	Part no.
Sumitomo 3M Limited	37104-3122-000FL
Tyco Electronics AMP K.K.	1473562-4
OMRON Corporation	XN2A-1430

- For detailed information about e-con connectors, please consult with the manufacturers of the respective connectors.



Trimmer Auto Switch Specific Product Precautions 3

Be sure to read before handling.

Refer to front matters 38 and 39 for Safety Instructions and pages 362 to 365 for the Auto Switch Common Precautions.

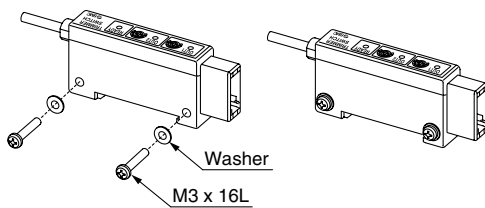
Mounting of Amplifier Unit

⚠ Caution

- Use mounting screws (M3 x 16L) or DIN rail (35 mm width). (DIN rail part no.: ISA-2-1 to 7)
- Adjust offset before mounting of the amplifier unit.

1. Mounting with screws

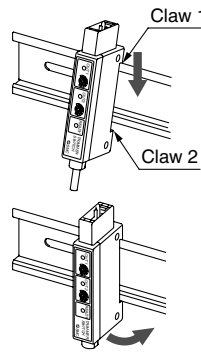
- Tighten two M3 x 16L mounting screws at a tightening torque of 0.5 to 0.7 N·m.
- Mounting surface should be flat and even. A bumpy or uneven mounting surface can result in damage to the case.



2. Mounting and removal to DIN rail

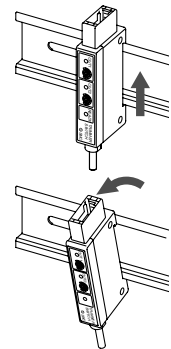
Mounting

- Hook the claw 1 of the amplifier body to the upper part of DIN rail, press down and push horizontally until the claw 2 is locked with a click sound.



Removal

- To remove from the DIN rail, push the amplifier body upward and then pull it horizontally to release from the claw 1 side.



- In the case of mounting to the DIN rail, SMC recommends the following end plates: as detailed in the table on the right. Consult each manufacturer for the handling and details of end plate.

Manufacturer	Part no.
OMRON Corporation	PFP-M
IDEAL Corporation	BNL6

3. Refer to each applicable actuator's catalog for the mounting of sensor unit.

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

S	0.5 m
M	1.0 m
L	3.0 m

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

Connector model

A	M8—3 pin
B	M8—4 pin
D	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			
Conformed standard	JIS C 4524, JIS C 4525, IEC 947-5-2, NECA 0402		
Impact resistance	300 m/s ²		
Enclosure	IP67 (IEC60529 standard)		
Insulation resistance	100 MΩ or more at 500 M VDC		
Withstand voltage	1500 VAC/1 minute (between contacts), Leak current 1 mA or less		

Applicable Auto Switch

Mounting	Function	Electrical entry	Applicable model	Lead wire length (m)		
				0.5	1.0	3.0
Rail mounting style	—	Grommet (In-line)	F79, F7P, J79	●	●	—
		Grommet (Perpendicular)	F7NV, F7PV, F7BV	●	●	—
	2-color indication	Grommet (In-line)	F79W, F7PW, J79W	●	●	—
		Grommet (Perpendicular)	F7NWV, F7BWV	●	●	—
	With diagnostic output	Grommet (In-line)	F79F	●	●	—
	Water resistant	Grommet (In-line)	F7BA	●	●	—
		Grommet (Perpendicular)	F7BAV	●	●	—
	With timer		F7NT	●	●	—
Magnetic field	P4DW		●	●	●	
Tie-rod mounting style	—		F59, F5P, J59	●	●	—
	2-color indication	F59W, F5PW, J59W	●	●	—	
	With diagnostic output	F59F	●	●	—	
	Water resistant	F5BA	●	●	—	
	With timer	F5NT	●	●	—	

Mounting	Function	Electrical entry	Applicable model	Lead wire length (m)		
				0.5	1.0	3.0
Direct mounting style	—	Grommet (In-line)	Y59A, Y7P, Y59B	●	●	—
		Grommet (Perpendicular)	Y69A, Y7PV, Y69B	●	●	—
		Grommet (In-line)	M9N, M9P, M9B	●	●	—
		Grommet (Perpendicular)	M9NV, M9PV, M9BV	●	●	—
		Grommet (Perpendicular)	F8N, F8P, F8B	●	●	—
	2-color indication	Grommet (In-line)	Y7NW, Y7PW, Y7BW	●	●	—
		Grommet (Perpendicular)	Y7NWV, Y7PWV, Y7BWV	●	●	—
		Grommet (In-line)	M9NW, M9PW, M9BW	●	●	—
		Grommet (Perpendicular)	M9NWV, M9PWV, M9BWV	●	●	—
		Grommet (Perpendicular)	Y7BA	●	●	—
Rotary actuator	—	Grommet (In-line)	M9NA, M9PA, M9BA	●	●	—
			M9NAV, M9PAV, M9BAV	●	●	—
			S791/2, S7P1/2, T791/2	●	●	—
			S991/2, S9P1/2, T991/2	●	●	—

With Pre-wired Connector

Connector Pin Arrangement



M8—3 pin



M8—4 pin



M12—4 pin

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 ²		
Enclosure	IP67 (IEC60529 standard)		
Insulation resistance	100 MΩ or more at 500 M VDC		
Withstand voltage	1500 VAC/1 minute (between contacts), Leak current 1 mA or less		

Dimensions

Connector model	
M8—3 pin 4 pin	
M12—4 pin	

Mass for Connector Types

Part no.	Connector type	Mass
D-□□□APC	M8-3	4 g
D-□□□BPC	M8-4	4 g
D-□□□DPC	M12-4	Approx. 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 Co., Ltd.	SAC-3P
		Corrence Corporation	M8-3D
	4	OMRON Corporation	M8-4D
		OMRON Corporation	XS3
M12	4	Phoenix Contact Co., Ltd.	SAC-4P
		Corrence Corporation	VA-4D
		OMRON Corporation	XS2
		Yamatake Corporation	PA5-4I
		Hirose Electric Co., Ltd.	HR24
		DKK Ltd.	CM01-8DP4S

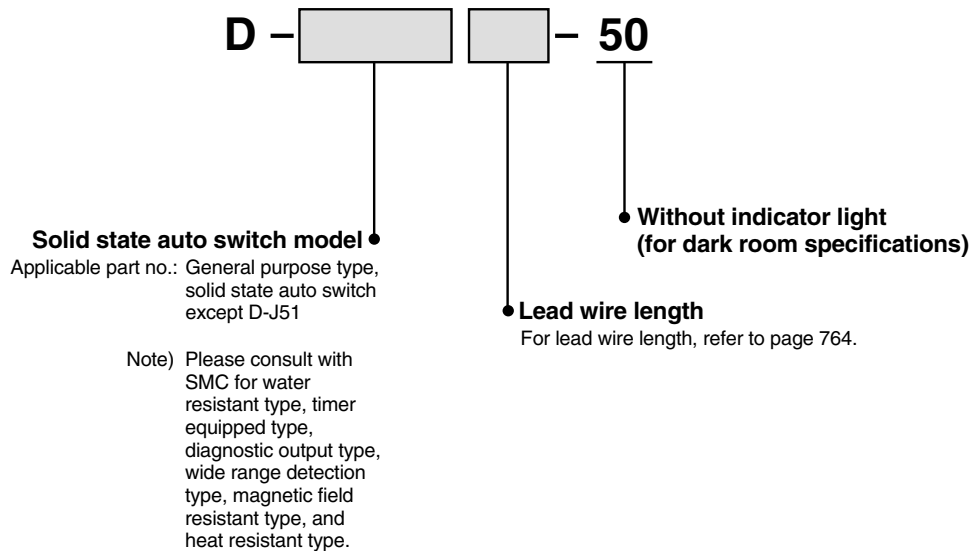
Made to Order Specifications: Solid State Auto Switch

-50: Without Indicator Light (Dark room) Specifications

-61: Oilproof, Flexible Cable Specifications

	Symbol
2 Without Indicator Light (for dark room specifications)	-50

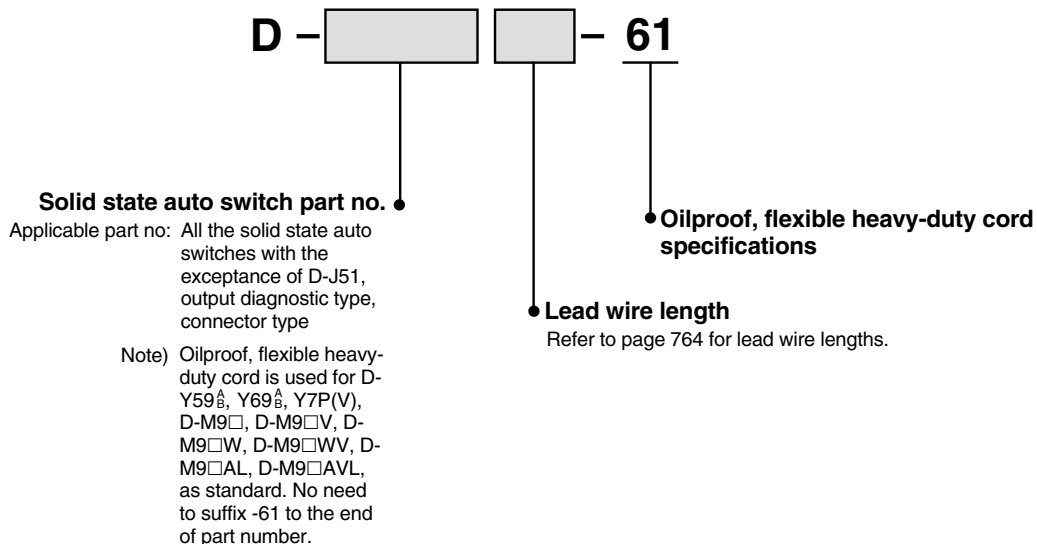
Can be used in environments where light should be avoided.



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

	Symbol
3 Oilproof, Flexible Heavy-duty Cord Specifications	-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..... ϕ 2.7, 0.15 mm², 3 cores (Brown, Blue, Black), 2 cores (Brown, Blue)
For other model nos..... ϕ 3.4, 0.15 mm², 3 cores (Brown, Blue, Black), 2 cores (Brown, Blue)

Dimensions are identical with D-F5 type, J59 type. Lead wire diameter is changed from ϕ 4 to ϕ 3.4. In other series products, it is common as standard product's specifications.

Reed Auto Switch Rail Mounting Style D-A72/D-A73/D-A80



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

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	100 VAC
Load current range ⁽³⁾	5 to 10 mA	5 to 40 mA	5 to 20 mA
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 ^{AC} _{DC} or less	48 V ^{AC} _{DC}	100 V ^{AC} _{DC}
Maximum load current	50 mA	40 mA	20 mA
Contact protection circuit	None		
Internal resistance	1 Ω or less (Including lead wire length of 3 m)		
Standard	CE marking		

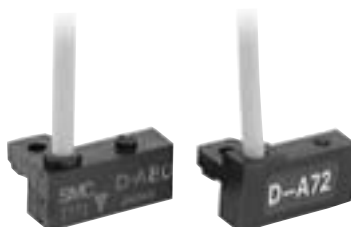
• Lead wires — Oilproof heavy-duty vinyl cord, ø3.4, 0.2 mm², 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

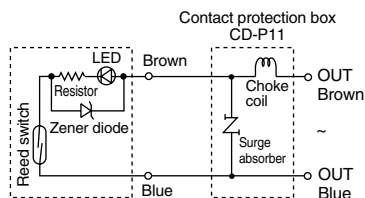
Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Grommet Electrical entry: Perpendicular

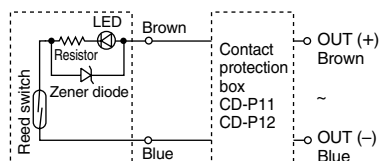


Auto Switch Internal Circuit

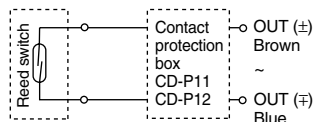
D-A72



D-A73



D-A80



Note 1) Operating load is an induction load.
Note 2) Wiring to the load is 5 m or longer.
Note 3) Load voltage is 100 VAC or 200 VAC.
Use the contact protection box in any of the above listed situations. The contact point life may decrease. **Especially in the case of D-A72, be sure to use the contact protection box.** (Refer to page 765 for contact protection box.)

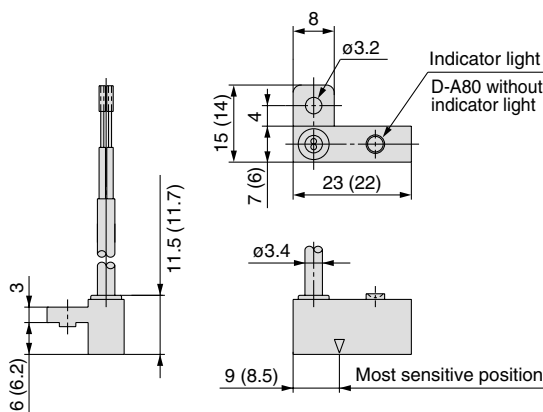
Mass

(g)

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

Dimensions

(mm)



() values for D-A72

D-□

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



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	100 VAC	4 to 8 VDC
Max. load voltage/Load current range ⁽³⁾	5 to 10 mA	5 to 40 mA	5 to 20 mA	20 mA
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 ^{AC} _{DC} or less	48 V ^{AC} _{DC}	100 V ^{AC} _{DC}	
Maximum load current	50 mA	40 mA	20 mA	
Contact protection circuit	None			
Internal resistance	1 Ω or less (Including lead wire length of 3 m)			
Standard	CE marking			

• Lead wires — Oilproof heavy-duty vinyl cord, 0.2 mm², 2 cores (Brown, Blue), 3 cores (Brown, Black, Blue), 0.5 m

Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 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.

Mass

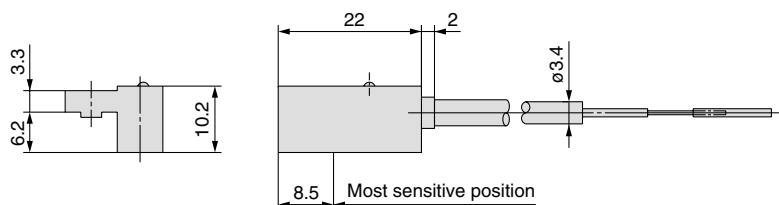
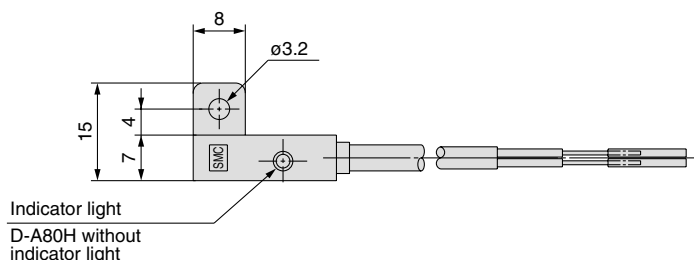
(g)

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

Dimensions

(mm)

D-A7□H, D-A80H

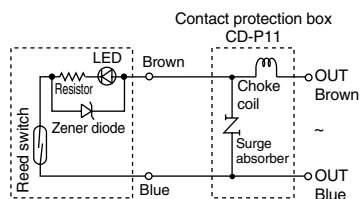


Grommet Electrical entry: In-line

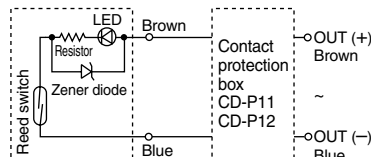


Auto Switch Internal Circuit

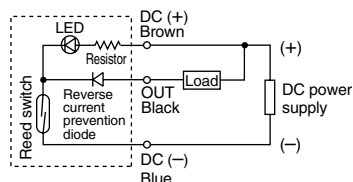
D-A72H



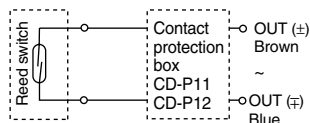
D-A73H



D-A76H



D-A80H



Note 1) Operating load is an induction load.

Note 2) In the case the wiring length to load is more than 5 m.

Note 3) Load voltage is 100 VAC or 200 VAC. Use the contact protection box in any of the above listed situations. The contact point life may decrease. **Especially in the case of D-A72H, be sure to use the contact protection box.** (Refer to page 765 for contact protection box.)

Reed Auto Switch Rail Mounting Style 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



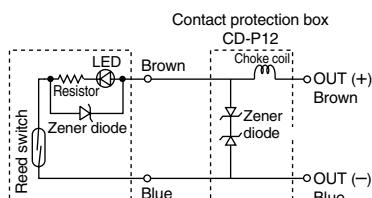
Caution

Precautions

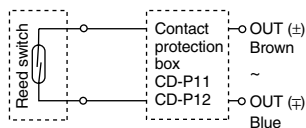
1. Confirm that the connector is appropriately tightened. If tightened insufficiently, the waterproof performance will deteriorate.
2. Refer to Best Pneumatics No. 2 for the details.

Auto Switch Internal Circuit

D-A73C



D-A80C



Note 1) Operating load is an induction load.
Note 2) Wiring to the load is 5 m or longer.
Use the contact protection box in any of the above listed situations. The contact point life may decrease. (Refer to page 765 for contact protection box.)

D-A73C (With indicator light)	
Auto switch model	D-A73C
Applicable load	Relay, PLC
Load voltage	24 VDC
Load current range ⁽⁴⁾	5 to 40 mA
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 ^{AC} _{DC}
Maximum load current	50 mA
Contact protection circuit	None
Internal resistance	1 Ω or less (Including lead wire length of 3 m)
Standard	CE marking

• Lead wires — Oilproof heavy-duty vinyl cord, ø3.4, 0.2 mm², 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 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.

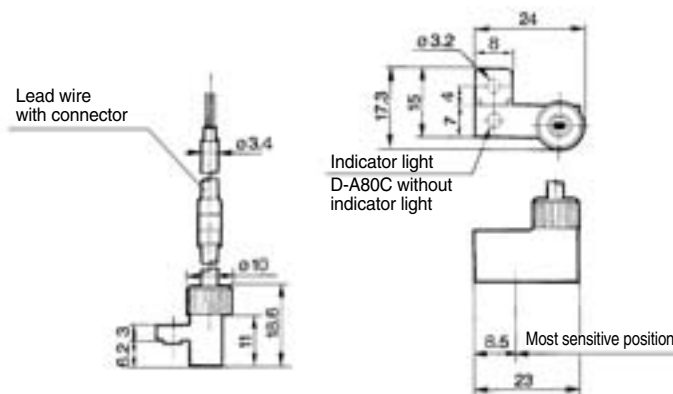
Mass

(g)

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

Dimensions

(mm)



D-□

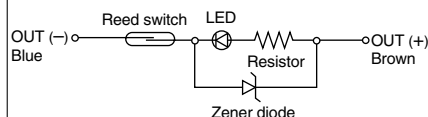
CE

Auto Switch Specifications

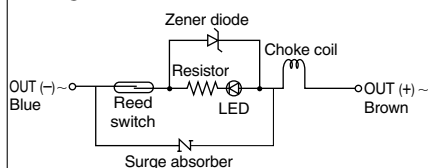
PLC: Programmable Logic Controller



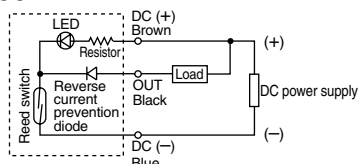
D-A53



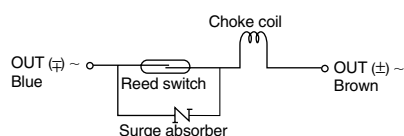
D-A54



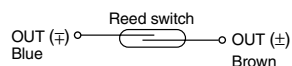
D-A56



D-A64



D-A67



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	24 VDC	100 VAC	200 VAC	4 to 8 VDC
Maximum load ⁽³⁾ current and range	5 to 50 mA	5 to 50 mA	5 to 25 mA	5 to 12.5 mA	20 mA
Contact protection circuit	None	Built-in			None
Internal voltage drop	2.4 V or less	2.4 V or less (to 20 mA)/3.5 V or less (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 $\frac{AC}{DC}$ or less	100 VAC	200 VAC	Max. 24 VDC
Maximum load current	50 mA	25 mA	12.5 mA	30 mA
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			

- Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 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.

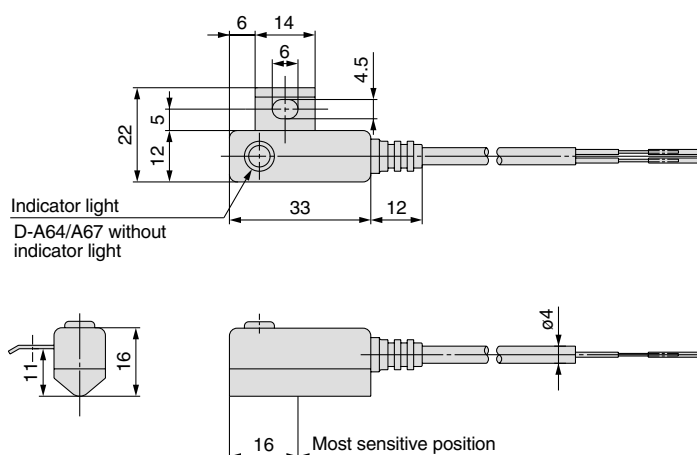
Mass

(g)

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

Dimensions

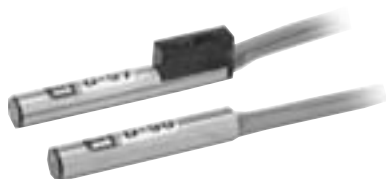
(mm)



Reed Auto Switch Direct Mounting Style D-90/D-97



**Grommet
Lead wire: Parallel cord**



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 5 VDC	12 VAC 12 VDC	24 VAC 24 VDC
Max. load current	50 mA		
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		
Load current range ⁽³⁾	5 to 40 mA		
Internal voltage drop	2.4 V or less		
Indicator light	Red LED illuminates when turned ON.		
Standard	CE marking		

• Lead wires — Vinyl parallel cord, 0.2 mm², 2 cores, 0.5 m

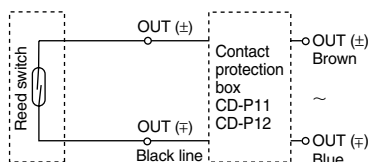
Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

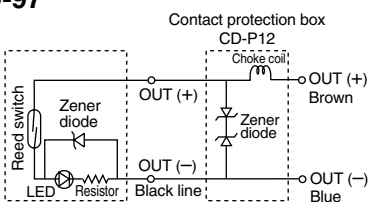
Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Auto Switch Internal Circuit

D-90



D-97



Note 1) Operating load is an induction load.

Note 2) Wiring to the load is 5 m or longer.

Use the contact protection box in any of the above listed situations. The contact point life may decrease. (Refer to page 765 for contact protection box.)

Mass

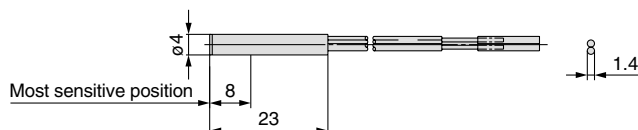
(g)

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

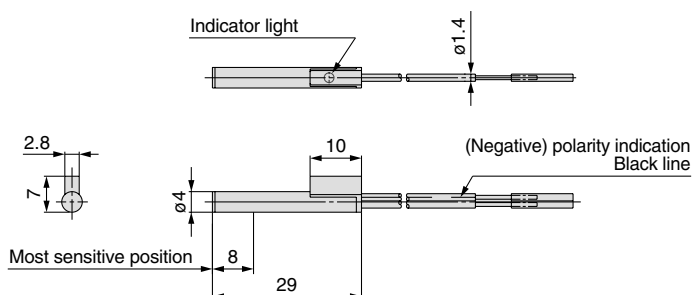
Dimensions

(mm)

D-90



D-97



C E



PLC: Programmable Logic Controller

Grommet

Precautions

Auto Switch Internal Circuit

Reed switch

Contact protection box CD-P11

Contact protection box CD-P12

OUT(±) Brown

OUT(±) Blue

The diagram illustrates the internal circuit of the contact protection device. A read switch is connected to a parallel combination of an LED and a resistor. A Zener diode is connected in series with the resistor. The circuit is connected to a contact protection box with terminals for Brown (OUT +) and Blue (OUT -).

Mass

Model		D-A90	D-A90V	D-A93	D-A93V	D-A96	D-A96V
Lead wire length (m)	0.5	6	6	6	6	8	8
	3	30	30	30	30	41	41

(mm)

M2.5 x 4L
Slotted set screw

Indicator light
D-A90 without indicator light

Most sensitive position

10

2.8 4.5 2 24.5 (22) 2.7

000V/D 002V/D 006V

(): dimensions for D-A96.

Technical drawing of the D-A90V sensor assembly, showing three views: front view, side view, and a detail view of the mounting bracket.

Front View Dimensions:

- Overall height: 9.1
- Distance from base to sensor head: 5.1
- Angle of the sensor head: α

Side View Dimensions:

- Base height: 4.5
- Base width: 10
- Distance from base to sensor head: 10
- Head diameter: $\varnothing 2.7$

Detail View Dimensions and Labels:

- Mounting bracket width: 22
- Bracket thickness: 2
- Distance from bracket edge to sensor head: 6
- Screw specification: M2.5 x 4L
- Screw type: Slotted set screw
- Indicator light: D-A90V without indicator light

Additional Labels:

- Most sensitive position (indicated by an arrow pointing to the base of the sensor head)

Reed Auto Switch Direct Mounting Style D-90A/D-93A



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

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 5 VDC	12 VAC 12 VDC	24 VAC 24 VDC	100 VAC 100 VDC
Max. load current	50 mA			20 mA
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		100 VAC	
Load current range ⁽³⁾	5 to 40 mA		5 to 20 mA	
Internal voltage drop	2.4 V or less			
Indicator light	Red LED illuminates when turned ON.			
Standard	CE marking			

• Lead wires — Oilproof heavy-duty vinyl cord, 0.2 mm², 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

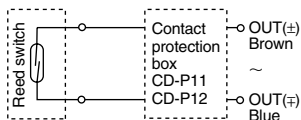
Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Grommet
Lead wire: Heavy-duty cord

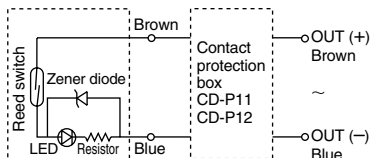


Auto Switch Internal Circuit

D-90A



D-93A



Note 1) Operating load is an induction load.

Note 2) Wiring to the load is 5 m or longer.

Note 3) Load voltage is 100 VAC.

Use the contact protection box in any of the above listed situations. The contact point life may decrease. (Refer to page 765 for contact protection box.)

Mass

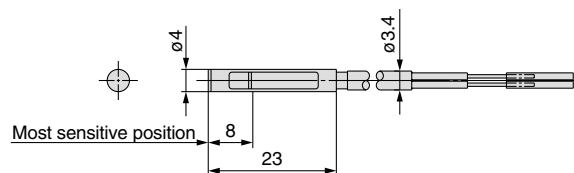
(g)

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

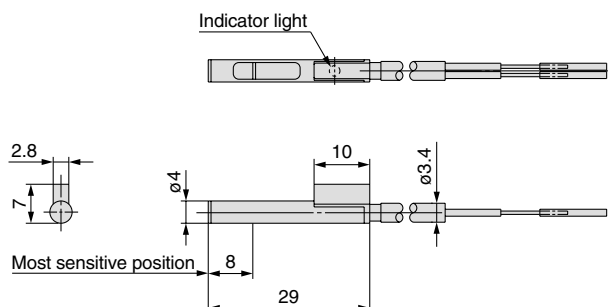
Dimensions

(mm)

D-90A



D-93A



Reed Auto Switch Direct Mounting Style D-R73/D-R80



**Grommet
Electrical entry: In-line**



D-R□□2



Left-hand mounting

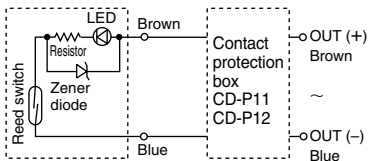
D-R□□1



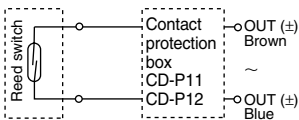
Right-hand mounting

Auto Switch Internal Circuit

D-R731, R732



D-R801, R802



Note 1) Operating load is an induction load.
Note 2) Wiring to the load is 5 m or longer.
Note 3) Load voltage is 100 VAC.
Use the contact protection box in any of the above listed situations. The contact point life may decrease. (Refer to page 765 for contact protection box.)

Auto Switch Specifications



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

PLC: Programmable Logic Controller

D-R73□ (With indicator light)			
Auto switch model	D-R731, D-R732		
Applicable load	Relay, PLC		
Load voltage	24 VDC	100 VAC	
Load current range	5 to 40 mA	5 to 20 mA	
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 ^{AC} _{DC} or less	48 V ^{AC} _{DC}	100 V ^{AC} _{DC}
Max. load current	50 mA	40 mA	20 mA
Internal resistance	1 Ω or less (Including lead wire length of 3 m)		
Standard	CE marking		



- Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 2 cores (Brown, Blue), 0.5 m
- Note 1) Refer to page 764 for reed auto switch common specifications.
- Note 2) Refer to page 764 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.

Mass

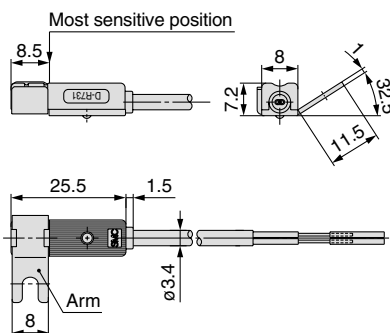
(g)

Auto switch model		D-R73□	D-R80□
Lead wire length	0.5	11	11
(m)	3	49	49

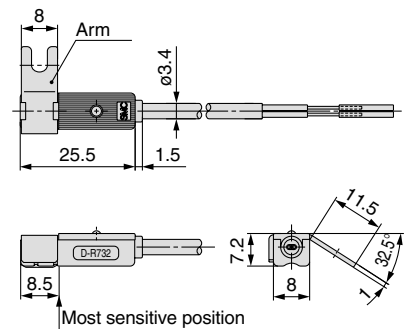
Dimensions

(mm)

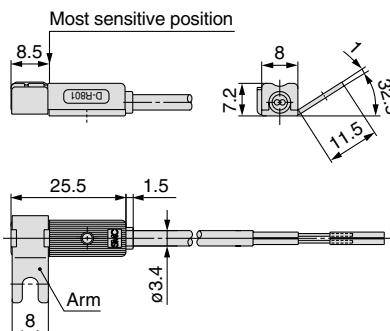
D-R731: Right-hand mounting



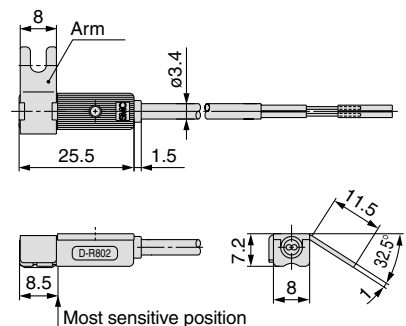
D-R732: Left-hand mounting



D-R801: Right-hand mounting



D-R802: Left-hand mounting



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



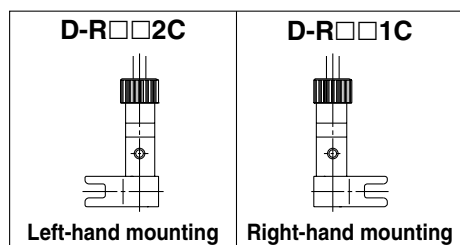
Connector Electrical entry: In-line



Caution

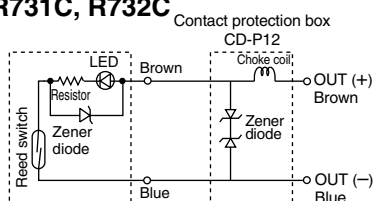
Precautions

Confirm that there is no looseness after wiring.
The looseness will decrease water resistance.

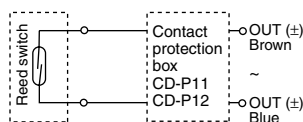


Auto Switch Internal Circuit

D-R731C, R732C



D-R801C, R802C



Note 1) Operating load is an induction load.
Note 2) Wiring to the load is 5 m or longer.
Use the contact protection box in any of the above listed situations. The contact point life may decrease. (Refer to page 765 for contact protection box.)

Auto Switch Specifications



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

PLC: Programmable Logic Controller

D-R73□C (With indicator light)	
Auto switch model	D-R731C, D-R732C
Applicable load	Relay, PLC
Load voltage	24 VDC
Load current range	5 to 40 mA
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 _{AC} DC
Max. load current	50 mA
Internal resistance	1 Ω or less (Including lead wire length of 3 m)
Standard	CE marking



• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 2 cores (Brown, Blue), 0.5 m
Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 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.

Mass

(g)

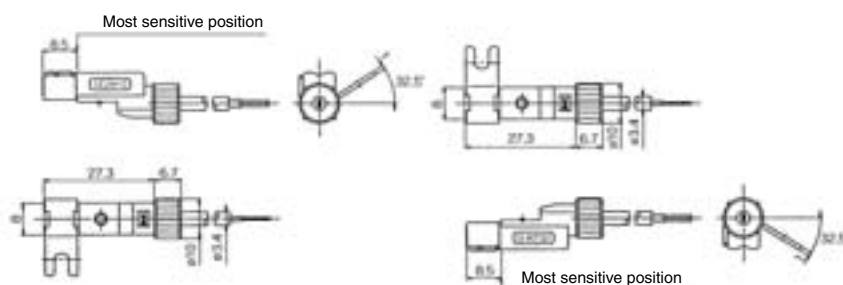
Auto switch model		D-R73□C	D-R80□C
Lead wire length (m)	0.5	12	12
	3	51	51
	5	81	81

Dimensions

(mm)

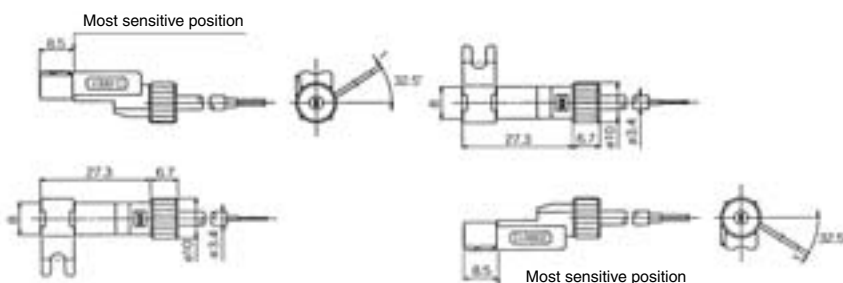
D-R731C: Right-hand mounting

D-R732C: Left-hand mounting



D-R801C: Right-hand mounting

D-R802C: Left-hand mounting



2-Color Indication Reed Auto Switch Rail Mounting Style D-A79W



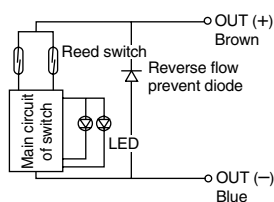
Grommet

The proper operating range can be determined by the color of the light.
(Red → Green ← Red)

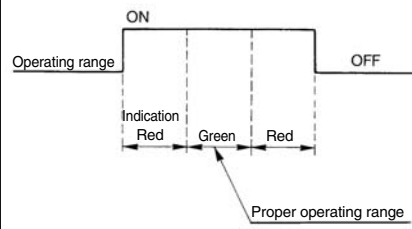


Auto Switch Internal Circuit

D-A79W



Indicator light/Display method



Note 1) Operating load is an induction load.
Note 2) Wiring to the load is 5 m or longer.
Use the contact protection box in any of the above listed situations. The contact point life may decrease. (Refer to page 765 for contact protection box.)

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 ⁽³⁾	5 to 40 mA
Contact protection circuit	None
Internal voltage drop	4 V or less
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.
Standard	CE marking

• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 3.4$, 0.2 mm², 2 cores (Brown, Blue), 0.5 m

Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 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.

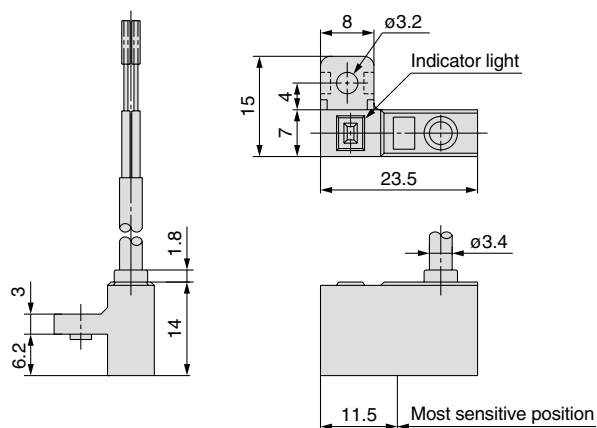
Mass

(g)

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

Dimensions

(mm)



2-Color Indication Reed Auto Switch Tie-rod Mounting Style 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 ⁽³⁾	5 to 40 mA
Contact protection circuit	Built-in
Internal voltage drop	4 V or less
Indicator light	Operating range Red LED illuminates. Proper operating range Green LED illuminates.
Standard	CE marking

• Lead wires — Oilproof heavy-duty vinyl cord, $\phi 4$, 0.3 mm², 2 cores (Brown, Blue), 0.5 m

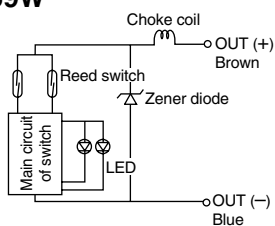
Note 1) Refer to page 764 for reed auto switch common specifications.

Note 2) Refer to page 764 for lead wire lengths.

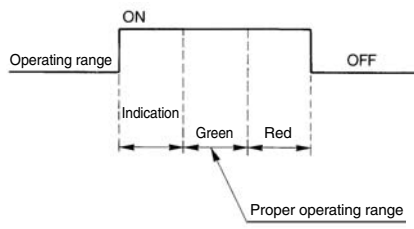
Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Auto Switch Internal Circuit

D-A59W



Indicator light/Display method



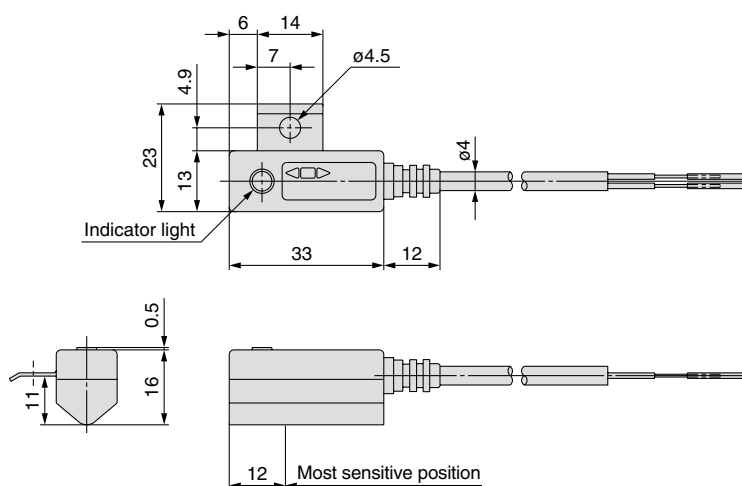
Mass

(g)

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

Dimensions

(mm)



D-□