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

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

Grommet

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



⚠Caution

Precautions

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

Auto Switch Specifications

PLC: Programmable Logic Controller

D-M9□, 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/UKCA marking					

Oilproof Heavy-duty Lead Wire Specifications

Auto switch model		D-M9N(V)	D-M9P(V)	D-M9B(V)
Sheath	Outside diameter [mm]	2.6		
Insulator	Number of cores	3 cores (Brown/Blue/Black)		2 cores (Brown/Blue)
	Outside diameter [mm]	0.88		
Conductor	Effective area [mm²]	0.15		
	Strand diameter [mm]	0.05		
Minimum bending radius [mm] (Reference values)		17		

Note 1) Refer to page 932 for solid state auto switch common specifications.
Note 2) Refer to page 932 for lead wire lengths.

Weight

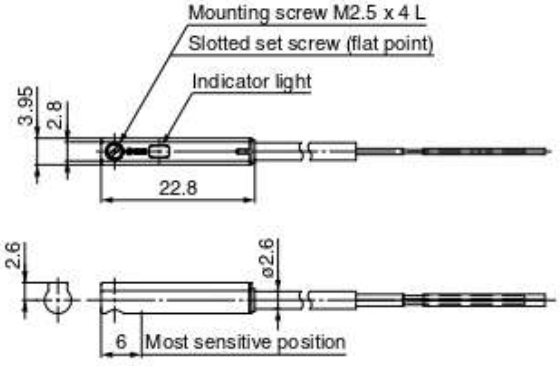
(g)

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

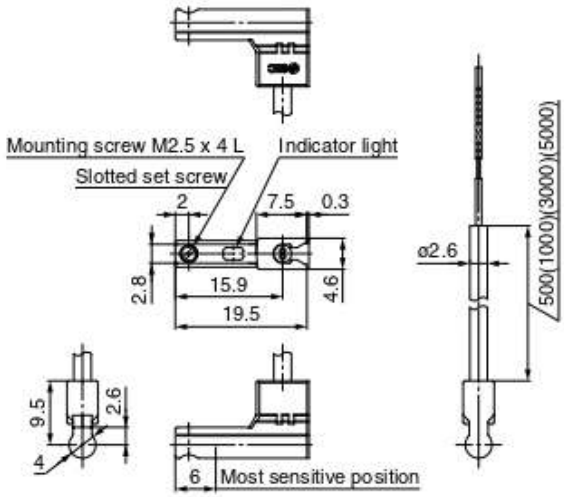
Dimensions

(mm)

D-M9□



D-M9□V



Auto Switch Specifications

Auto Switch Common Specifications

Type	Reed switch	Solid state switch
Leakage current	None	3-wire: 100 μA or less 2-wire: 0.8 mA or less
Operating time	1.2 ms	1 ms or less
Impact resistance	300 m/s²	1000 m/s²
Insulation resistance	50 MΩ or more at 500 Mega VDC (between lead wire and case)	
Withstand voltage	1000 VAC for 1 minute (between lead wire and case)	1000 VAC for 1 minute (between lead wire and case)
Ambient temperature	–10 to 60°C	
Enclosure	IEC529 standard IP67, JIS C 0920 waterproof construction	
Standard	Conforming to CE Standards	

How to Order

D- M9 P W V L

Wiring and output

N	3 wire, NPN
P	3 wire, PNP
B	2 wire

Lead wire length

-	0.5 m
M	1 m
L	3 m
Z	5 m

Colour indication

-	Standard (1-colour)
W	2-colour

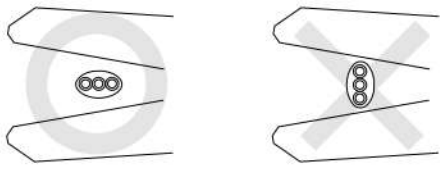
Wiring entry

-	In-line
V	Perpendicular

Note 1) Applicable auto switch with 5 m lead wire "Z"
Solid state switch: Manufactured upon receipt of order as standard.
Note 2) For 1 m(M), available with D-M9□W(V) only.

Applicable Wire Stripper

When the cable sheath is stripped, confirm the stripping direction. The insulator may be split or damaged depending on the direction. (D-M9□(V) only)



Recommended Tool

Model name	Model no.
Wire stripper	D-M9N-SWY

∗ Stripper for a round cable (ø2.0) can be used for a 2-wire type cable.

Contact Protection Boxes: CD-P11, CD-P12

<Applicable switch model>

D-A9/A9□V
The auto switches above do not have a built-in contact protection circuit. Therefore, please use a contact protection box with the switch for any of the following cases:
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 VAC.**
The contact life may be shortened. (Due to permanent energising conditions.)

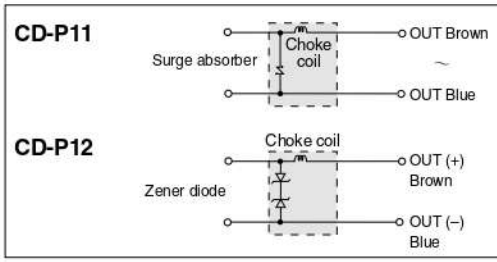
Specifications

Part no.	CD-P11		CD-P12
Load voltage	100 VAC	200 VAC	24 VDC
Maximum load current	25 mA	12.5 mA	50 mA

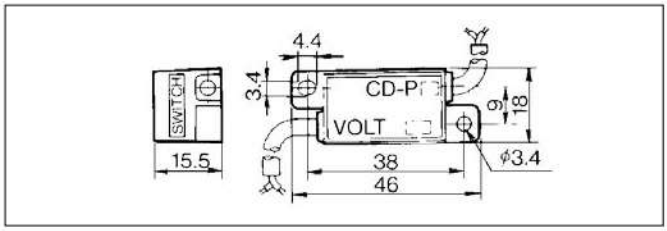
∗ Lead wire length —— Switch connection side 0.5 m
Load connection side 0.5 m



Internal Circuit

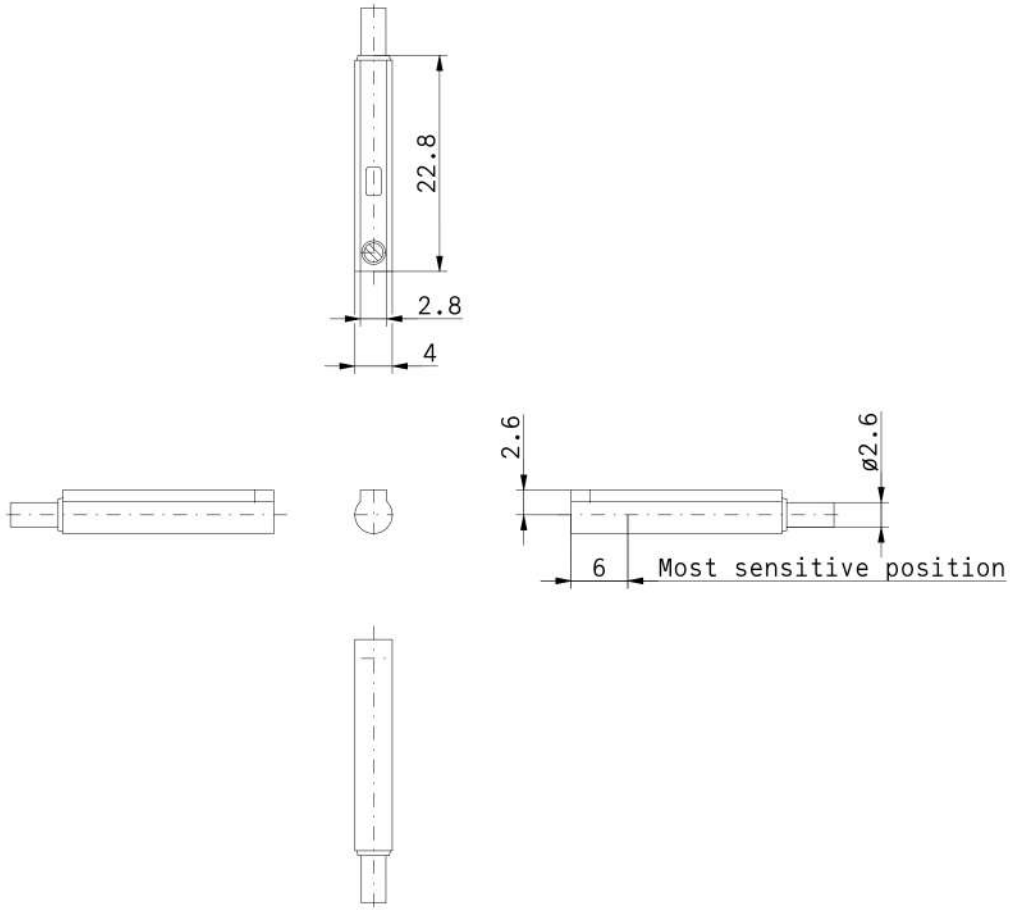


Dimensions



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 metre.



Projection		Scale	Free	DATE	10-13-2026
Drawing No.	D-M9BL				

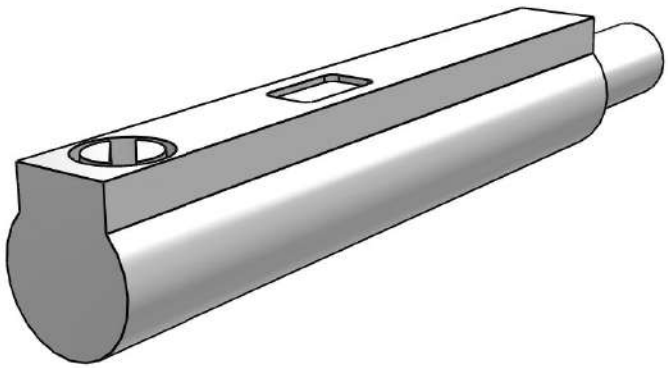
SMC Corporation

D-M9BL

General Purpose Auto Switches/Solid State/Direct Mounting/Grommet

3D View

To activate the interactive 3D view, you must trust this document (see hint on the top) in Adobe Acrobat and click on the question mark.



D-M9BL

General Purpose Auto Switches/Solid State/Direct Mounting/Grommet

Technical Data

MODEL (Model)	D-M9BL
LEAD (Lead wire length)	(L) 3 m
TYPE (Type)	Solid state
FUNCTION (Function)	General
ENTRY (Electrical entry)	Grommet
LIGHT (Indicator light)	Yes
WIRING (Wiring)	2-wire
OUTPUT (Output)	-
DIRECTION (Electrical entry direction)	In-line