

Solid State Auto Switch

D-M9N, D-M9P, D-M9B



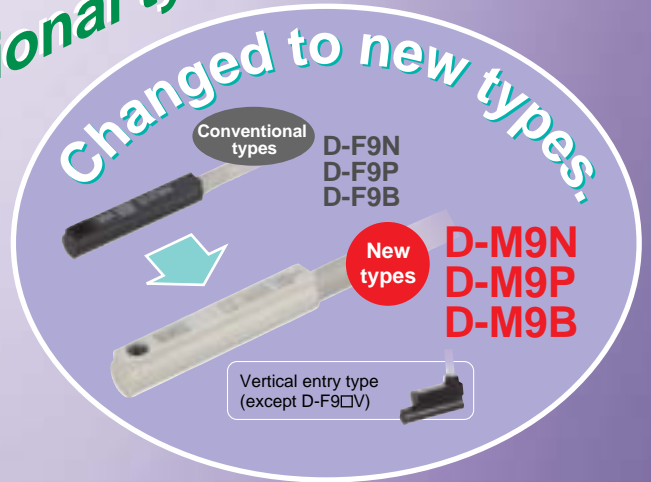
Lead Free Solder

D-M9N (3-wire, NPN output)

D-M9P (3-wire, PNP output)

D-M9B (2-wire)

Dimensions and the most sensitive positions are same as the conventional types.



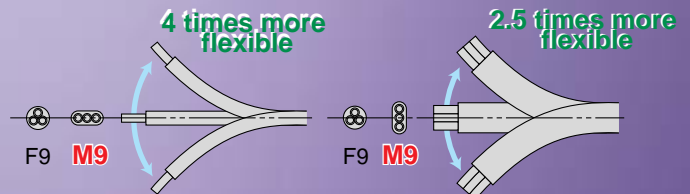
**Range of load current:
2.5~40mA (2-wire)**

New types
D-M9B
2.5~40mA

Conventional types
D-F9B
5~40mA

**Improved lead wire :
4 times the flexibility**

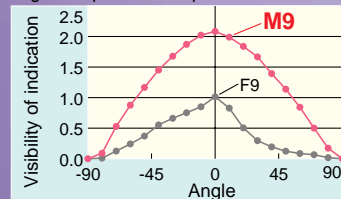
•Flexible lead wire is available as standard.



**Indicator Light:
Twice the brightness**



Control point brightness improved at 0° angle compared to the previous F9 series.



Solid-state Auto Switches for Direct Mounting Series D-M9



Grommet

- Reduced load currents for two-wire model (2.5 to 40 mA)
- Compliance with lead-free requirements
- Use of UL-approved lead wires (style 2844)



Auto Switch Specifications

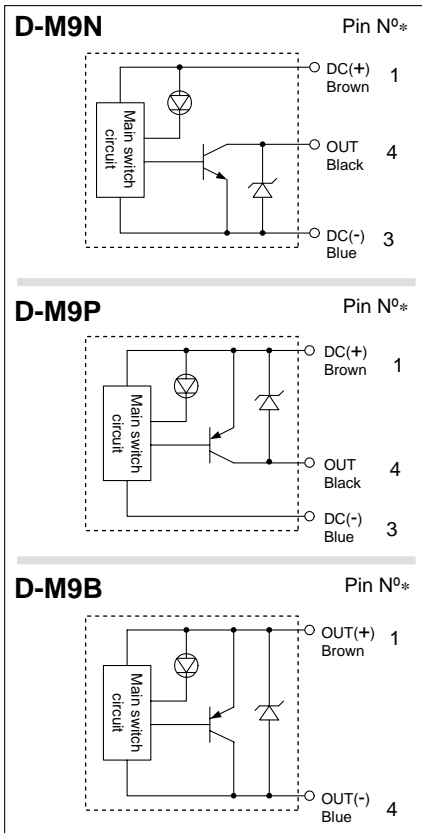
D-M9□ (with Indicator light)			
Model number	D-M9N	D-M9P	D-M9B
Wiring	Three-wire		Two-wire
Output	NPN	PNP	—
Applicable load	Integrated circuit, relay and PLC		24 V DC relay and PLC
Power voltage	5, 12, or 24 V DC (4.5 to 28 V DC)		—
Current consumption	10 mA or less		—
Load voltage	28 V DC or less	—	24 V DC (10 to 28 V DC)
Load current	40 mA or less		2.5 to 40 mA
Internal voltage drop	0.8 V or less		4 V or less
Leakage current	100 μA max. at 24 V DC		0.8 mA or less
Indicator light	Red LED lights when ON.		

- Lead wire: oil-proof heavy-duty vinyl cable
2.7 x 3.2 with elliptic cross-section, 0.15 mm², two cores (D-M9B),
or three cores (D-M9N and D-M9P)

Solid state switch specifications

Leakage current	3-wire: 100 μA or less; 2-wire: 0.8 mA max.
Operating time	1 ms or less
Impact resistance	1000 m/s ²
Insulation resistance	50 MΩ or more at 500 V DC (between lead wire and case)
Withstand voltage	1000 V AC for 1 min. (between lead wire and case)
Ambient temperature	-10°C to 60°C
Enclosure	IEC529 standard IP67, JIS C 0920 watertight construction

Internal circuits



* Valid for connector version

Weight

Unit: g

Standard type:

Model		D-M9N	D-M9P	D-M9B
Lead wire length (m)	0.5	8	8	7
	3	41	41	38

M8 connector type:

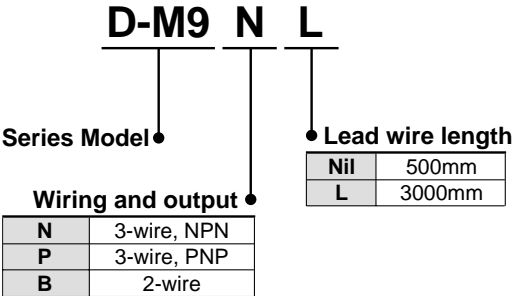
Model		D-M9N□APC	D-M9B□APC	D-M9N□BPC	D-M9B□BPC
		D-M9P□APC		D-M9P□BPC	
Lead wire length (m)	0.5	11	11	11	11
	1	18	18	18	18

M12 connector type:

Model		D-M9N□DPC	D-M9B□DPC
		D-M9P□DPC	
Lead wire length (m)	0.5	19	18
	1	26	25

How to Order

Standard Model Number



D-M9 with M8 connector:

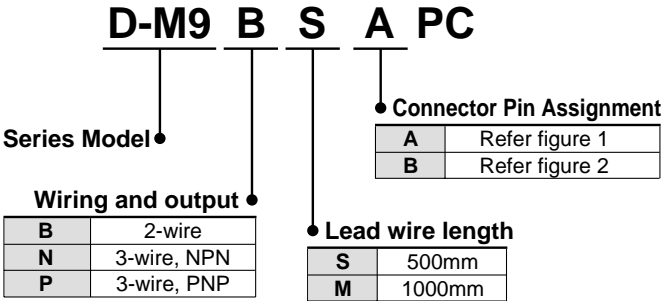


figure 1

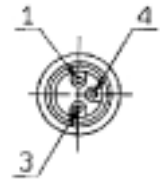
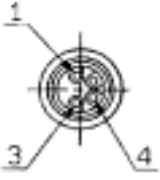


figure 2



D-M9 with M12 connector:

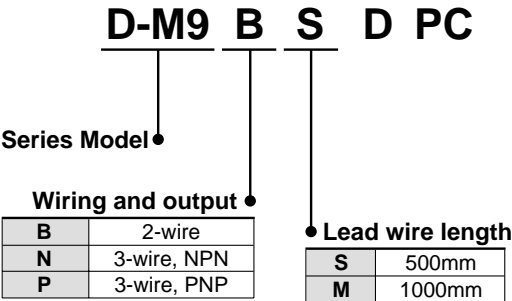


figure 3



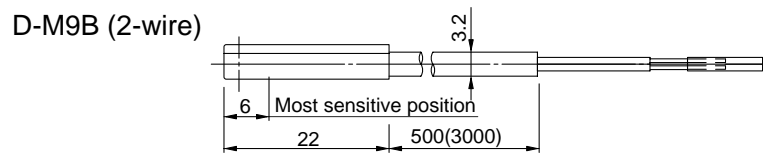
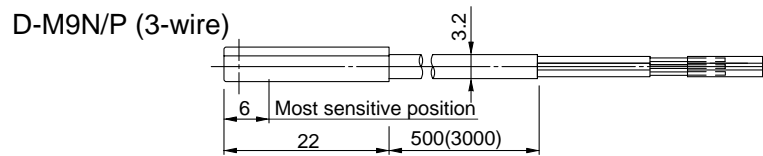
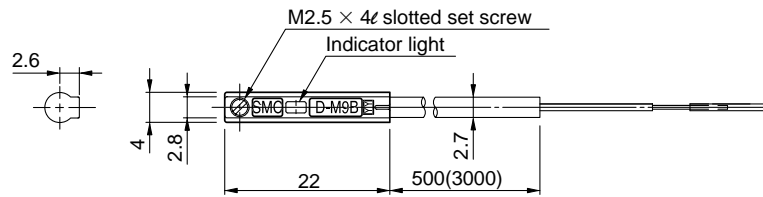
Series D-M9

Auto Switch Dimensions

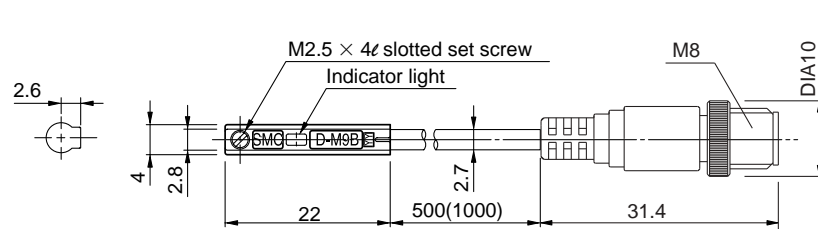
Standard Model Number

D-M9□

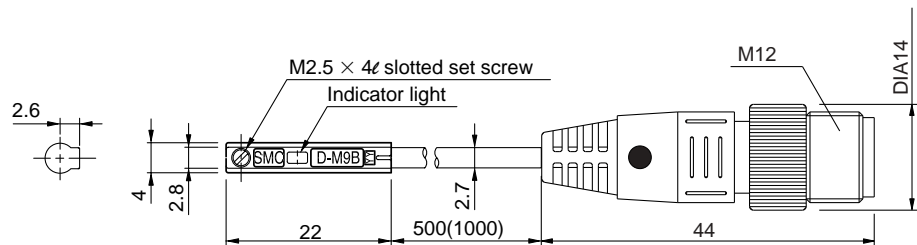
D-M9B/N/P (common)



D-M9 with M8 connector:



D-M9 with M12 connector:



⚠ Specific Product Precautions

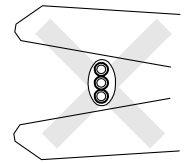
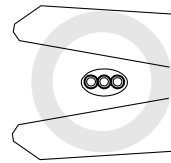
Be sure to read before handling. Contact SMC when the required specification is out of range.

Handling

⚠ Caution

Observe the following precautions when handling the product.

- The D-M9 series of auto switches is not overcurrent-protected.
Faulty wiring or short circuit may result in breakage or burning-out of the switch.
- When stripping the cable clad, be careful about the orientation of the cable being stripped.
The insulator may be accidentally torn or damaged depending on the orientation, as shown on the right.



When replacing conventional types, dependant upon application, the shortened operating range may cause auto switch imperceptive.

- When the range of stroke is wider than the operating range. Examples) Stamping, press-fitting, clamping, etc.
- When used to detect intermediate position. (Detection output time is shortened.)

Note) Consult with SMC regarding details of operation range by each actuator.

Applicable Actuators

Applicable actuators are same as conventional lines due to same dimensions.

Standard Air Cylinder

Compact Style



Mini Free Mount Cylinder	CUJ
Free Mount Cylinder	CU
Compact Cylinder	CQS/CQ2
Compact Cylinder with Air Cushion	RQ

Combination Cylinder

Cylinder with Table



Compact Slide	MXH/MXU
Air Slide Table	MX□

Rodless Cylinder



Mechanically Jointed Rodless Cylinder	MY1/MY2/MY3
Magnetically Coupled Rodless Cylinder	CY1/CY3

Guide Cylinder



Platform Cylinder	CXT
Dual Rod Cylinder	CXSJ/CXS

Cylinder with Lock

Compact Cylinder with Lock	CLQ/RLQ
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Vacuum Equipment

Free Mount Cylinder for Vacuum

Free Mount Cylinder for Vacuum	ZCUK
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Specialty Cylinder



Precision Cylinder	MTS
Sine Rodless Cylinder	REAR/REBR
Low Speed Cylinder	CUX/CQSX/CQ2X
Rotary Clamp Cylinder	MK•MK2
Stopper Cylinder	RSQ
Stroke Reading Cylinder	CE1/CEP1
Escapements	MIW/MIS

Rotary Actuator



Mini Rotary Actuator	CRJ
Compact Rotary Actuator	CRQ2
Rotary Table	MSQ

Air Gripper



Linear Guide Parallel Style	MHZ2/MHF2
Rotary Actuated Style	MHR2•3
Slide Guide Style 2 Finger	MHK2
	MHS2•3•4
Cam Style 180°	MHY2
Rotary Gripper	MRHQ
Angular Style	MHC



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