Prior to Use
Auto Switches Common Specifications 1

⚠Specific Product Precautions

Refer to the Auto Switch Precautions on pages 8 to 11 before using auto switches.

Auto Switches Common Specifications

Type	Reed auto switch	Solid state auto 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 (3)
Impact resistance	300 m/s²	1000 m/s² (4)
Insulation resistance	50 MΩ or more at 500 VDC Mega (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/C73C/C80C): 1000 VAC/min. (Between lead wire and the case)
∗ 2) The terminal conduit type (D-A3/A3□A/A3□C/G39/G39A/G39C/K39/K39A/K39C), DIN terminal type (D-A44/A44A/A44C) and heat resistant auto switch (D-F7NJL) conform to IEC60529 Standard IP63. The trimmer type amplifier section (D-R□K) conforms to IP40.
∗ 3) Excluding the solid state auto switches with a timer (D-M5□TL/G5NTL/F7NTL/F5NTL types) and **magnetic field resistant 2-color indication solid state auto switch (D-P3DW□/P4DWL)**. The operating time for D-J51 is 2 ms or less and for D-P3DW□/P4DWL is 40 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-B53/B54, D-C73(C)/C80C, D-A73(C)(H)/A80C, D-A53/A54, D-Z73, D-90/97/90A/93A
Solid state auto switch: Manufactured upon receipt of order as standard.
Note 2) The standard lead wire length for trimmer auto switches is 3 m.
Note 3) The standard lead wire length for solid state auto switches with a timer, water resistant 2-color indication solid state auto switches, wide range detection type solid state auto switches, heat resistant 2-color indication solid state auto switches and magnetic field resistant 2-color indication solid state switches is 3 m and 5 m (except D-P3DW, D-M9□A(V)□). (0.5 m is not available.)
Note 4) 1 m (M): D-M9□(W)(V) only
Note 5) 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, and D-M9□W/M9□WV.

(Example)

D-F7PL-61

Flexible specification

(D-Y59, D-Y69, D-Y7 and D-M9 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

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

CE

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

Grommet

Auto Switch Specifications

PLC: Programmable Logic Controller

D-A5 (With indicator light)					
Auto switch model	**D-A53**	**D-A54**			**D-A56**
Applicable load	PLC	Relay, PLC			IC circuit
Load voltage	24 VDC	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 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			

• Lead wires — Oilproof heavy-duty vinyl cord, ø4, 0.3 mm², 2 cores (Brown, Blue), or 0.2 mm², 3 cores (Brown, Black, Blue), 0.5 m

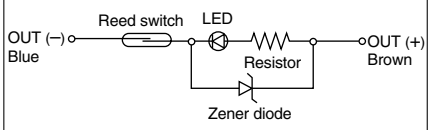
Note 1) Refer to page 1272 for reed auto switch common specifications.

Note 2) Refer to page 1272 for lead wire lengths.

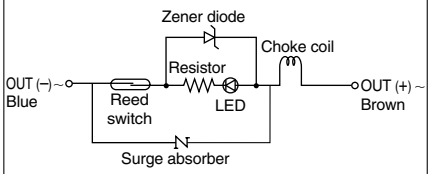
Note 3) Under 5 mA, the strength of the indicator light is poor. In some cases, visibility of the indicator light will not be possible where the output signal is less than 2.5 mA. However, there is no problem in terms of contact output, when an output signal exceeds 1 mA or more.

Auto Switch Internal Circuit

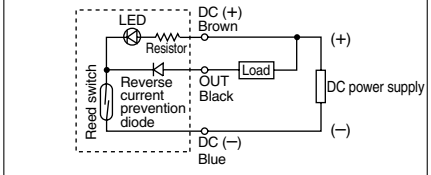
D-A53



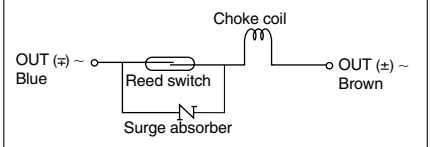
D-A54



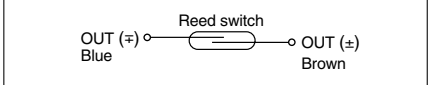
D-A56



D-A64



D-A67



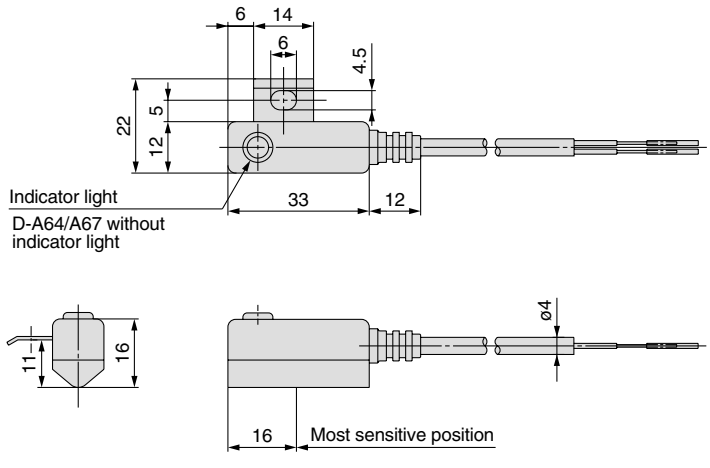
Mass

(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)



SMC