

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 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 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 Rail Mounting Style D-A7□H/D-A80H

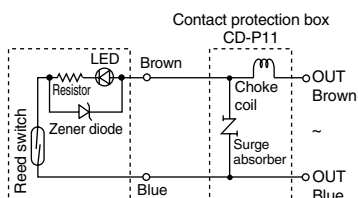


**Grommet
Electrical entry: In-line**

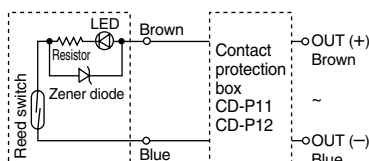


Auto Switch Internal Circuit

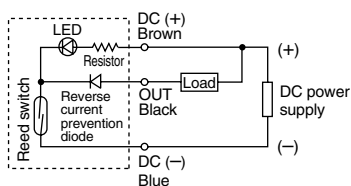
D-A72H



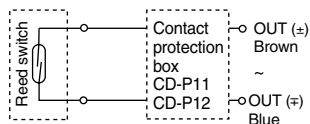
D-A73H



D-A76H



D-A80H



Note 1) Operating load is an induction load.
Note 2) Wiring to the 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 1273 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-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 current/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 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.

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

