

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-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



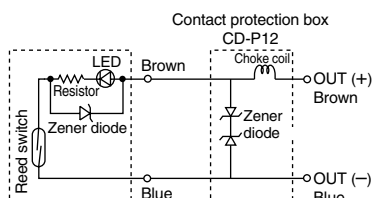
Caution

Precautions

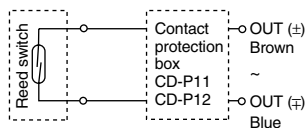
1. Confirm that the connector is appropriately tightened. If tightened insufficiently, the waterproof performance will deteriorate.
2. Refer to page 1355 for the details.

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 1273 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 1272 for reed auto switch common specifications.

Note 2) Refer to page 1272 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)

