**Applicable Auto Switch Model** 

Refer to p.5.3-2 to 5.3-75 for the detailed specifications of auto switches.

### **Applicable Auto Switch Model**

							l	Re	ee	a s	wi	tcl	h																			ę	Sol	id	St	ate	s	wi	tc	h														
	Cylinder	-C7/C8	-C73C/C80C	-R5/R6	DEOW	-B39W	-A3/A4	-A3_A/A44A	-A3 C/A44C	-A7/A8	-A/_H/A80H	-A73C/A80C	-A79W	-A5/A6	-459W	V BAB			07/17-	-H/	-H/C	-H7BAL	-H7 IF	M 7H-	-G5/K5	-G5BAL	-G59F	D-G5NTL	-G5_W/K59W	-G39/K39	-G39A/K39A	-F7/J7	-J79C		-F7BAL				cL/c1-	D-F5BAL		-F5 F	)-F5NTL	-G39C/K39C	-F9/F9 \\	-F9 W/F9 WV	-F9BAL	-Y5/Y6/Y70/Y70V	-Y7BAL	-Y7_W/Y7_WV	-M5	M GM-	-M5 IL	I-P5 WL
CD	J2/RSD					1	1									1	1	3 6	2																		2	ז ב															1	
CD	JP			F	T	+			T		T		T				t					T	T						+			T		T		T													+	+			+	_
CD	U					T					+		1			t	T	t				1	1	1				+	1	1				1		+					1	+							+	+		1	+	
CD	Q2					+			1						1	T	T	1											1												1								+	+			+	
CD	QS				T	T			T		T		T		T	T	T	T														T		T	T	T	T				1								+	1			Ť	_
MD	U/CDE1														T	T																																	T	T				
CD	M2								T		Τ		T																					Τ		T	T												Ť				T	-
CD	G1				T																						T			1																			T	T				_
CD	A1/CDNA/CE2				T	T	ľ				T											T	T	T			1	1																					Ť				T	-
MD	B/MDBB					Τ		T																																	T								T				T	
CD	S1										T		1	T		T	T																	T		T			1		1	T							Ť				T	
CD	L																																								1								T					
CD	В				T	T																																											T				T	
CDV																																																	T					
CD	□X					Τ					Τ																Τ																											
CD	Y1																																																Τ					
MY	1																																																T					
ML	1/ML2																																																Τ					
МХ	/MTS																																																					
СХ	S																																																					
MG	G/MGC/MLGC																																																					
MG	Q/MGF/MGP/MVGQ																																																					
МК	/MK2																																																					
RS	н																																																					
RH	C/REC																																																					
poq	Band																																																					
g met	Rail																																																					
untin	Tie-rod																																																					
Ň	Direct																																																					
	Function				2 color								Z COIOT		2 color							Water resistance	Diagnosis output	2 color		Water resistance	Diagnosis output	With timer	2 color					Diagnosis output	Water resistance	VAGAL Almon				Water resistance	Z COIOT	Diagnosis output	With timer			2 color	Water resistance		Water resistance	2 color	-	Z COLOT	With timer	Magnetic resistance
	Page	5.3-9	5.3-11	5 3-10	E 0 0E	0.0-20	0.3-12	5.3-13	5.3-18	5.3-14	5.3-15	5.3-16	5.3-26	5.3-17	5.3-27	0.0-13/0.0-2U	22-0.01 2-00	1.0-24 E 0 00	0.3-23	5.3-29	5.3-31	5.3-55	5.3-49/5.3-50	5.3-42	5.3-30	5.3-56	5.3-51	5.3-59	5.3-43	5.3-32	5.3-33	5.3-34	5.3-36	0.3-02/0.3-03	5.3-57	5.3-35	5.3-0U	01-0.01+1-0.0	5.3-3/	5.3-58	5.3-40	5.3-54/5.3-65	5.3-61	5.3-38	5.3-39	5.3-66	5.3-67	5.3-40	5.3-63	5.3-48	5.3-41	5.3-4/	5.3-02	5.3-64

Note 1) D-B7/B8, D-B73C/B80C, D-G7/K7 and D-K79C are applicable for series MGG, MGC and MLGC. Note 2) Series MXS, MXF, MXP, MXQ, MXW and MXU are included in Series MX.

# SMC Auto Switch Variations



General purpose auto switch



Band mounting

Rail mounting

Tie-rod mounting

Direct mounting

# **SMC Auto Switch Variations**



## **▲** Precautions

Refer to "Auto Switch Precautions" in p.0-44 to 0-46 before handling.	1	e – – –								 	 	 
		Refer to	"Auto	Switch	Precautio	ons" in n O	44 to 0-4	6 before b	andling			
	1								<u>ananig</u> .	 	 	 _

### **Auto Switch Common Specifications**

Auto switch style	Reed switch	Solid state switch							
Current leakage	None	3 wire: 100 $\mu A$ or less, 2 wire: 1mA or less							
Operating time	1.2ms	1ms or less <sup>(3)</sup>							
Shock resistance	300m/s <sup>2</sup>	1000m/s <sup>2</sup>							
Insulation resistance	50 M $\Omega$ or more at 500MV DC (between lead wire and the case)								
Withstand voltage	1500V AC/min. (between lead wire and the case) <sup>(1)</sup>	1000V AC/min. (between lead wire and the case)							
Ambient temperature	-10 to	60°C							
Protective construction	IEC529 Standard IP67, Waterproof construction (JISC0920) <sup>(2)</sup>								

Note 1) Connector style (D-A73C/A80C/C73C/C80C) and D-9/9□A/A9/A9□V style: 1000V AC/min. (between lead wire and the case)

Note 2) IEC529 Standard IP63, Rainproof construction (JISC0920) for Terminal conduit style (D-A3/A3 C/G39/G39A/G39C/K39/K39A/K39C) and DIN teminal style (D-A44/A44A/A44C).

Note 3) Except solid state switch with timer (D-M5DTL, G5NTL, F7NTL, F5NTL) and Auto switch for strong magnetic field resistance (D-P5DWL). D-J51: 5ms or less

### Lead Wire Length

How to Order

Ex.)



\* Applicable for the connector style (D- \*\* C) only

Note 1) Applicable auto switch with 5 meter lead wire ("Z") Reed 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 switch: Manufactured upon receipt of order as standard (Except D-F9/F9□V)

Note 2) The standard lead wire length of solid state switch with timer or with water resistant 2 color indication is 3 meters. (Not available 0.5m)

Note 3) The standard lead wire length of strong magnetic field resistant solid state switch is 3 or 5 meters. (Not available 0.5m.)

### Part No. of lead wire with connector

	lector style offiy.
Part No.	Lead wire length
D-LC05	0.5m
D-LC30	3m
D-LC50	5m

### Change of Lead Wire Color

Lead wire colors of SMC auto switches have been changed in order to meet Nippon Electric Control Equipment Industries Association Standard No. 402.

2 wire auto switch										
	Old	New								
Output (+)	Red	Brown								
Output (-) Black Blue										

## Solid state auto switch with diagnostic output

	Old	New
Power supply	Red	Brown
GND	Black	Blue
Output	White	Black
Diagnositc output	Yellow	Orange

3 wire auto switch											
	Old	New									
Power supply Red Brown											
GND	Black	Blue									
Output	White	Black									
Solid state auto switch with											

atoning st	yic ala	gnostie output
	Old	New
Power supply	Red	Brown
GND	Black	Blue
Output	White	Black
Latching style diagnostic outout	Yellow	Orange

# Prior to Use Auto Switch Hysteresis/Contact Protection Box

### Contact Protection Box/CD-P11, CD-P12

### 1

# The following auto switches are not incorporated with the contact protection box.

D-A7/A8, D-A7□H/A80H, D-A73C, A80C, D-C7/C8, D-C73C/C80C, D-E7□A, E80A, D-Z7/Z8, D-9/9□A, D-A9/A9□V, and D-A79W type

Use an auto switch with a contact protection box in any case listed below. Unless using a contact protection box, the contact life may be shortened.

(Due to permanent energizing conditions.)

D-A72(H) must be used with the contact protection box

regardless of load styles and lead wire length.

**Operating load is an inductive load.** 

2 The wiring length to load is more than 5m.

3 The load voltage is 100 or 200 V AC.

2

Contact SMC when using built-in contact protection circuit style (D-A34[A] [C], D-A44[A] [C], D-A54/A64, D-B54/B64,

D-A59W, D-B59W) in the following conditions:

- ① The wiring length to load is more than 30m.
- 2 When using PLC with large flow current

### **Contact Protection Box/Specifications**

Part No.	CD-	CD-P12	
Load voltage	100V AC max.	200V AC	24V DC
Max. load current	25mA	12.5mA	50mA

Lead wire length - Switch connecting side 0.5m



## Contact Protection Box/Internal Circuit

(): If applicable for IEC Standard



### **Contact Protection Box/Dimensions**



### Auto Switch Hysteresis

The distance between the turn-on point (ON) of the switch by moving of the piston to the turn-off point (OFF) is called "Hysteresis". This hysteresis is included as part of the operating range (one side).



### **Contact Protection Box/Connection Method**

For connection of the switch body and the contact protection box, connect the lead wire in the side indicated as "SWITCH" on the contact protection box to the lead wire from the switch body. The length of lead wire between the switch body and the contact protection box should be within 1m and they should be set as close together as possible.



Technical Data

# **Prior to Use**

# **Auto Switch Connection Method/Connection Example**

### **Basic Wiring**



### Typical PLC (Programmable Logic Controller) Connection Circuits





Connect according to the input specification of PLC because the connection method varies with the input specification of PLC.

### AND (Serial), OR (Parallel) Connection Examples

When 2 switches are connected by

AND, load voltage will decrease at

ON and these connections may

Indication lights up when both

cause malfunction of load.

switches are ON.

•3 wire

•2 wire (2 pcs.)

Switch 1

Switch 2

**AND** connection

Brown

Blue

Brown

Blue

Load

NPN/AND connection (with relay)



#### NPN/AND connection (with switch)





Indication lights up when both switches are ON

Brown

Blue

Brown

Blue

OR connection

Switch 1

Switch 2

[Solid state switch] When 2 switches are connected by OR, load voltage will increase at OFF and these connections may cause malfunction.

[Reed switch]

There is no current leakage so that load voltage does not increase at OFF.

The flowing current is broken up into the ON-state switches, so indicator light becomes dark or may not turn ON due to the lack of the current.

Load voltage at OFF=Leakage current X 2 pcs. X Load impedance =1mA X 2 pcs. X 3kΩ

=6V

Load

=16V Example) Supply voltage 24V DC, switch internal drop voltage 4V

Load voltage at ON=Supply voltage-Internal drop voltage X 2 pcs.

=24V-4V X 2 pcs.

Example) Load impedance 3kΩ, switch leakage current 1mA

# **Reed Switch**

# General Purpose Auto Switch 2 color Indication Style

### **Reed Switch Variations**



J D -X 20-

Technical Data

# Reed Switch/Band Mounting D-C73/D-C76/D-C80

### Grommet



### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2	ø6, ø10, ø16
CDVJ	ø10, ø16
CDLJ2	ø16
CDM2/CDBM2/CDVM3, 5 CDLM2	ø20, ø25, ø32, ø40
CDG1/MGG	ø20, ø25, ø32, ø40, ø50, ø63
CDLG1	ø20, ø25, ø32, ø40
RSDG	ø40, ø50
MGC	ø20, ø25, ø32, ø40, ø50
MLGC/RHC/REC	ø20, ø25, ø32, ø40

### Specifications

PLC: Programmable Logic Controller

20mA

40mA

None

 $1\Omega$  or less (Including 3m lead wire)

D-C7 (With indicator light)									
Auto switch model number	D-	C73	D-C76						
Application	Rela	IC circuit							
Load voltage	24V DC	100V AC	4 to 8V DC						
Max. load current and range	5 to 40mA	5 to 20mA	20mA						
Contact protection circuit	None								
Internal voltage drop	≤ 2	≤ 0.8V							
Indicator light	ON: When red light emitting diode								
D-C8 (Without indicator lig	ht)								
Auto switch model number	D-C80								
Application	Relay/PLC/IC circuit								
Load voltage	24V <sub>DC</sub> or less	48V AC	100V AC						

### **Internal Circuit**

### (): If not applicable for IEC Standard



(2) In the case the wiring length to load is more than 5m.
 (3) In the case the load voltage is 100V AC.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box. Lead wire - Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

50mA

### Dimensions

\_

Max. load current

Internal resistance

Contact protection circuit



2010 0120													
6	10	16	20	25	32	40	50	63					
6	7	7	-	-	-	-	-	-					
-	7	7	-	-	-	-	-	-					
-	-	7	-	-	-	-	-	-					
—	Ι		7	8	8	8	-	-					
—	-	-	8	10	9	10	10	11					
—	-	-	8	10	9	10	_	-					
—	-	-	—		-	10	10	-					
-	-	-	8	10	9	10	10	-					
_	_	_	8	10	9	10	_	-					
	6 6         	6         10           6         7           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -	6         10         16           6         7         7           -         7         7           -         -         7           -         -         7           -         -         7           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$									

Note) Average value at normal temperature including hysteresis. (Tolerance  $\pm$  30%)

# Reed Switch/Band Mounting D-B53/D-B54/D-B64

### Grommet



**Internal Circuit** 

Reed switch

Reed switch

D-B53

OUT(-) o

Blue(Black)

D-B54

OUT(-) ~ -Blue(Black)

D-B64

OUT(∓) ~ ○ Blue(Black)

(): If not applicable for IEC Standard

LED

Zener diode

-17

Resistance

-₩₩-®

N-Surge absorber

Reed switch

Surge absober

LED

Choke coil

-~~~

Choke coil

Resistance

Zener diode

0UT(+)

Brown (Red)

OUT(+)-

Brown

(Red)

OUT(±)~

Brown (Red)

#### **Applicable Actuator Series**

Series	Bore size (mm)				
CDM2, CDBM2, CDVM3/5, CDLM2	ø20, ø25, ø32, ø40				
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100				
CDLG1	ø20, ø25, ø32, ø40				
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CE2, CNA	ø40, ø50, ø63, ø80, ø100				
MGC	ø20, ø25, ø32, ø40, ø50				
MLGC, RHC, REC	ø20, ø25, ø32, ø40				

PLC: Programmable Logic Controller

### **Specifications**

			<u> </u>		0		
D-B5 (With indicator	0-B5 (With indicator light)						
Auto switch model number	D-B53	D-B54					
Application	PLC	Relay/PLC					
Load voltage	24V DC	24V DC	100V	AC	200V AC		
Load current range	5 to 50mA	5 to 50mA	5 to 25	mA	5 to 12.5mA		
Contact protection circuit	None	None Built-in					
Internal voltage drop	≤ 2.4V	≤ 2.4V					
Indicator light	0	ON: When red light emitting diode					
D-B6 (Without indication	ator light)						
Auto switch model number	D-B64						
Application	Relay/PLC						
Load voltage	24V <sub>DC</sub> or less	100V /	100V AC		200V AC		
Max. load current	Max.50mA	Max.25mA		Max.12.5mA			
Contact protection circuit	Built-in						
Internal resistance	10Q or less						

Lead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m

Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions



### **Operation Range (***t* **Dimension)**

Actuator aprica	Bore size								
Actuator series	20	25	32	40	50	63	80	100	
CDM2, CDBM2, CDVM3, 5									
CDLM2	8	8	9	9	_	_	_	_	
CDG1, MGG	8	10	9	10	10	11	11	11	
CDLG1	8	10	9	10	_	—	-	-	
CDA1, CDBA1, CDV3, CDVS,				0	10				
CDLA, CDL1, CE2, CNA	_	_	_	9	10	1.1	11	11	
MGC	8	10	9	10	10	-	-	-	
MLGC, RHC, REC	8	10	9	10	—	-	_	_	

Note) Average value at normal temperature including hysteresis. (Tolerance  $\pm$  30%)

Technical Data

(mm)

# **Reed Switch/Band Mounting** D-C73C/D-C80C

### Connector



### ▲ Caution

**Precautions** 

①Confirm that the connector is appropriately tightened. If tightened insufficiently, the water resistant performance will deteriorate.

2 Refer to p.5.3-68 for the details.

### **Internal Circuit** (): If not applicable for IEC Standard



Note) ①In the case operation load is an inductive load. 2 In the case the wiring length to load is > 5m.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box.

### Applicable Actuator Series

Series	Bore size (mm)
CDJ2	ø6, ø10, ø16
CDVJ	ø10, ø16
CDLJ2	ø16
CDM2, CDBM2, CDVM3, CDVM5, CDLM2	ø20, ø25, ø32, ø40
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63
CDLG1	ø20, ø25, ø32, ø40
RSDG	ø40, ø50
MGC	ø20, ø25, ø32, ø40, ø50
MLGC, RHC, REC	ø20, ø25, ø32, ø40

### **Specifications**

D-C73C (With indicator	· light)
Auto switch model number	D-C73C
Application	Relay/PLC
Load voltage	24V DC
Load current range	5 to 40mA
Contact protection circuit	None
Internal voltage drop	≤ 2.4V
Indicator light	ON: When red light emitting diode

PLC: Programmable Logic Controller

(mm)

#### D-C80C (Without indicator light)

Auto switch model number	D-C80C
Application	Relay/PLC
Load voltage	≤ 24V <sup>AC</sup> <sub>DC</sub>
Max. load current	50mA
Contact protection circuit	None
Internal resistance	≤ 1Ω (Including 3m lead wire)

•Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length. Note 3) Lead wire with connector may be shipped with switch.

#### Dimensions



### **Operation Range (***l* **Dimension)**

Actuator sorias		Bore size								
Actuator series	6	10	16	20	25	32	40	50	63	
CDJ2	6	7	7	—				—	—	
CDVJ	—	7	7	—	_	_	—		—	
CDLJ2	—	—	7				—	—	—	
CDM2, CDBM2, CDVM3, CDVM5, CDLM2	—	—	—	7	8	8	8		—	
CDG1, MGG	—	—		8	10	9	10	10	11	
CDLG1	—	—	—	8	10	9	10		—	
RSDG	—	—	—				10	10	—	
MGC	—	—	—	8	10	9	10	10	—	
MLGC, RHC, REC	_	_	_	8	10	9	10	_	—	

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# Reed Switch/Band Mounting **D-A33/D-A34/D-A44**

### Terminal conduit: D-A3 DIN terminal: D-A4



### **▲** Caution

#### Precautions

- <sup>(1)</sup>Use cable whose O. D. is within the size in the figure to maintain water resistant performance.
- ②After wiring, confirm that tightening gland and all screws are tightened.

### **Internal Circuit**



### **Applicable Actuator Series**

Series	Bore size (mm)
CDA1, CDBA1, CDV3, CDVS, CDLA, CE2, CNA	ø40, ø50, ø63, ø80, ø100
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDS1	ø125, ø140, ø160, ø180, ø200
RHC	ø20, ø25, ø32, ø40

PLC: Programmable Logic Controller

### Specifications

0-A3 (With indicator light) Terminal conduit							
Auto switch model number	D-A33	D-A34					
Application	PLC	Relay/PLC					
Load voltage	24V DC	24V DC	100V AC	200V AC			
Load current range	5 to 50mA	5 to 50mA	5 to 25mA	5 to12.5mA			
Contact protection circuit	None	Built-in					
Internal voltage drop		≤ 2.4V					
Indicator light		ON: When red lig	pht emitting dic	ode			
D-A44 (With indic	D-A44 (With indicator light) DIN terminal						
Auto switch model number	D-A44						
Application	Relay/PLC						
Load voltage	24V DC	100	/ AC	200V AC			
Load current range	current range 5 to 50mA 5 to 25mA		25mA	5 to 12.5mA			

Built-in

 Internal voltage drop
 ≤ 2.4V

 Indicator light
 ON: When red light emitting diode

Note) Refer to common specifications on p.5.3-5.

Contact protection circuit

### Dimensions



#### Bore size Actuator series 63 80 100 125 160 180 20 25 32 40 50 140 200 CDA1, CDBA1, CE2 CDV3, CDVS, CDLA 9 10 11 11 11 CNA CDL1 9 10 11 11 11 10 10 10 \_ \_ CDS1 10 10 10 10 10 RHC 9 10 9 10

Note) Average value at normal temperature including hysteresis. (Tolerance ± 30%)

# **Reed Switch/Band Mounting** D-A33A/D-A34A/D-A44A

### Terminal conduit: D-A3□A **DIN terminal: D-A44A**



### Internal Circuit



### Applicable Actuator Series

Series

CDM2, CDBM2, CDLM2

Bore size (mm) ø20, ø25, ø32, ø40

Specifications	PLC: Programmable Logic Controlle						
D-A3 A (With indica	ator light) Te	ermi	nal cond	luit			
Auto switch model number		D-A34A D-A33A					
Application		Re	lay/PLC			PLC	
Load voltage	24V DC	1(	DOV AC	200V A0	2	24V DC	
Load current range	5 to 50mA	5 t	o 25mA	5 to12.5n	nA	5 to 50mA	
Contact protection circuit		Built-in					
Internal voltage drop		≤ 2.4V					
Indicator light		ON: \	When red li	ght emitting	dioc	le	
D-A44A (With indica	tor light) Dll	N ter	minal				
Auto switch model number			D-A	44A			
Application			Relay	//PLC			
Load voltage	24V DC		100	V AC		200V AC	
Load current range	5 to 50mA 5 to 25mA 5		5 to12.5mA				
Contact protection circuit	Built-in						
Internal voltage drop	≤ 2.4V						
Indicator light	ON: When red light emitting diode						
Note) Refer to common specifi	cations on p.5.3-5						

### ▲ Caution

### **Precautions**

①Use cable whose O. D. is within the size in the figure to maintain water resistant performance.

2 After wiring, confirm that tightening gland and all screws are tightened.

### Dimensions

D-A3



### **D-A44A**



Actuator series	Bore size						
	20	25	32	40			
CDM2, CDBM2, CDLM2	8	8	9	9			

(mm)

Note) Average value at normal temperature including hysteresis. (Tolerance ± 30%)

# **Reed Switch/Rail Mounting** D-A72/D-A73/D-A80





### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDXW	Plate mounted ø10, ø16, ø20, ø25, ø32, Housing mounted ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø16, ø20, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

### **Specifications**

PLC: Programmable Logic Controller

D-A7 (With indicator li	ght)								
Auto switch model number	D-A72	D-4	473						
Application	Relay/PLC	Relay	Relay/PLC						
Load voltage	200V AC	24V DC	100V AC						
Load current range	5 to 10mA	5 to 40mA	5 to 20mA						
Contact protection circuit		None							
Internal voltage drop		≤ 2.4V							
Indicator light	ON: V	/hen red light emitting	) diode						
D-A8 (Without indicate	or light)								
Auto switch model number	D-A80								
Application		Relay/IC circuit/PLC							
Load voltage	$24V \frac{AC}{DC}$ or less	48V AC	100V AC DC						
Max. load current	50mA	40mA	20mA						
Contact protection circuit	None								
Internal resistance	1Ω or less (Including 3m lead wire)								

### **Internal Circuit**

### (): If not applicable for IEC Standard



Note) ①In the case operation load is an inductive load. ②In the case the wiring length to load is ">" 5m.

③In the case the load voltage is 100 or 200V AC Be sure to use the auto switch with the contact protection box in any case mentioned above.

D-A72 must be used with contact protection box Refer to p.5.3-6 for the details of contact protection box.



• Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m

Most sensitive position (): D-A72 type

### Operation Range ( *l* Dimension)

Note 1) Refer to common specifications on the p.5.3-5. Note 2) Refer to the p.5.3-5 for lead wire length.

Dimensions

Operatio	Jperation Range ( <i>e</i> Dimension) (m														(mm)		
Actuator	rico								Bore	size							
Actuator se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDV	'J	—	8	—	—	9	—	—	—	—	—	-	—	-	—	—	_
CDQ2		—	—	10	—	12	12	12	12	11	10	12	12	13	13	13	13
CDVW	В		—			6	6	6	6								
CDAW	Ρ		6			6	6	6	6								
CDY1S		6	6	—	6	—	6	6	6	6	—	—	—	—	—	—	—
CY1L		6	6	-	6	-	6	6	6	6	—	-	—	-	—	-	_
RSDQ		—	—	—	—	—	12	12	12	11	10	—	—	—	—	—	—
MDU		—	—	-	—	-	—	13	13	13	13	13	—	-	—	—	—
CE1		—	—	10	—	-	12	—	12	11	10	12	—	-	—	—	_
MK, MK2		—	—	_	—	-	12	12	12	11	10	12	—	-	—	—	—
СХТ		_	_	_	_	-	_	_	12	11	_	_	_	_	_	-	_

Note) Average value at normal temperature including hysteresis. (Tolerance ± 30%)

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Technical

Data

# Reed Switch/Rail Mounting **D-A7 H/D-A80H**

### Grommet Electrical entry : In-line



### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDXW	Plate mounted ø10, ø16, ø20, ø25, ø32, Housing mounted ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø16, ø20, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

### Specifications

PLC: Programmable Logic Controller

(mm)

D-A/LH (With Indicator light)												
Auto switch model number	D-A72H	D-A	73H	D-A76H								
Application	Relay/PLC	Relay	//PLC	IC circuit								
Load voltage	200V AC	24V DC	100V AC	4 to 8V DC								
Max. load current and range	5 to 10mA	5 to 40mA	5 to 20mA	20mA								
Contact protection circuit		None										
Internal voltage drop		≤ 2.4V		0.8V or less								
Indicator light	ON: Whe	en red light emitt	ing diode									
D-A80H (Without indic	ator light)											
Auto switch model number		D-A	80H									

Auto switch model number		D-AUUII	
Applications		Relay/IC circuit/PLC	
Load voltage	$24V \frac{AC}{DC}$ or less	48V AC DC	100V <sup>AC</sup> <sub>DC</sub>
Max. load current	50mA	40mA	20mA
Contact protection circuit		None	
Internal resistance	1Ω or	less (Including 3m lea	ad wire)

• Lead wire — Oilproof vinyl heavy insulation cable, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 3 cores (Brown, Black, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions



### Operation Range ( *l* Dimension)

Actuator co	ricc								Bore	size							
Actuator se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDV	J	—	8	—	-	9	-	—	-	-	—	—	—	-	—	-	—
CDQ2		—	—	10	—	12	12	12	12	11	10	12	12	13	13	13	13
CDVW	В		_			6	6	6	6								
CDXW	Ρ	_	6	_	_	6	6	6	6		_	_	_	_	_	_	_
CDY1S		6	6	—	6	-	6	6	6	6	—	-	—	-	—	-	—
CY1L		6	6	—	6	-	6	6	6	6	—	—	—	-	—	—	—
RSDQ		—	-	—	-	-	12	12	12	11	10	—	—	-	—	-	—
MDU		—	—	_	—	-	—	13	13	13	13	13	—	-	—	-	_
CE1		—	—	10	—	-	12	—	12	11	10	12	—	-	—	—	—
MK, MK2		—	-	_	-	-	12	12	12	11	10	12	—	-	—	-	_
СХТ		—	—	—	—	—	_	_	12	11	—	—	—	—	—	_	-

### Internal Circuit

#### (): If not applicable for IEC Standard



t de la companya de l	protection	←o OUT(±) Brown(Red)	
	CD-P11 CD-P12	to ⊷o OUT(∓) Blue(Black)	

Note) ①In the case operation load is an inductive load. ②In the case the wiring length to load is ">" 5m. ③In the case the load voltage is 100 or 200V AC.

Be sure to use the auto switch with the contact protection box in any case mentioned above.

D-A72H must be used with contact protection box. Refer to p.5.3-6 for the details of contact protection box.

# **Reed Switch/Rail Mounting** D-A73C/D-A80C

### Connector



### ▲ Caution **Precautions**

**Internal Circuit** 

①Confirm that the connector is appropriately tightened. If tightened insufficiently, the water resistant performance will deteriorate. 2 Refer to p.5.3-68 for the details.

#### (): If not applicable for IEC Standard **D-A73C** Contact protection box CD-P12 n(Red) Choke coil -00UT(+) Brown(Red) -17-, ⊈⁄Zener Zener diode \_diode Reed OUT(-) Blue(Black) Blue(Black) **D-A80C** -• OUT(±) Contact switch protection Brown(Red) to Reed CD-P11 CD-P12 Blue(R) i...... Blue(Black)

Note) ①In the case operation load is an inductive load. (2)In the case the wiring length to load is ">" 5m.
 Be sure to use the auto switch with the contact protection

box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box.

### Applicable Actuator Series

Applicable P		uio			<u> </u>												
Series		Bore size (mm)															
CDJ2, CDVJ		ø10, ø16															
CDQ2		ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160															
CDXW	Plat	Plate mounted ø10, ø16, ø20, ø25, ø32, Housing mounted ø16, ø20, ø25, ø32															
CDY1S, CY1L		ø6, ø10, ø15, ø20, ø25, ø32, ø40															
RSDQ		ø16, ø20, ø32, ø40, ø50															
MDU						ø2	25, ø3	32, ø	40, ø	50, ø	63						
CE1						ø12,	ø20,	ø32,	ø40	, ø50	, ø63						
MK, MK2						ø20,	ø25,	ø32,	ø40	, ø50	, ø63						
СХТ								ø32,	ø40								
Specification	าร								PI	C· P	roara	mma	ble I	oaic	Cont	roller	
D-A73C (Wit	h in	dic	ato	r lio	iht)						<u> </u>			- 3			
Auto switch mo	del n	umbe	ər		,,	-	-	-	D	-A73	C	-	-	-	-		
Application		unio	51						Re	lav/P							
L oad voltage									2	ם // 1	<u>с</u>						
Load current ra	inde								5 t	D ∩ 4∩r	nA						
Contact protect	tion c	ircuit							01	None	 1						
Internal voltage	dror	)								\$ 2.4	/						
Indicator light	arop						ON.	Whe	n red	liaht	emit	tina c	liode				
D-A80C (Wit	hou	ıt in	dic	ato	r lic	uht)	011.		1100	ingin	onna	ung c	1000				
				alu	i ng	,,,,,		-	П	- ^ 8(		-	-	-	-		
Auto Switch mo	dern	umbe	51					Pa			Duit/D						
								IXC	iay/i			10					
Max load curre	nt									50m/							
		ircuit								None	י 						
		noun					10.0	r loca	: (Inc	ludin	, u 3m	head	wiro	<u>۱</u>			
Note 1) Refer to common Note 2) Refer to p.5.3-5 Note 3) Lead wire with <b>Dimensions</b>	on spe 5 for le conne	ecificat ad wir ctor m	ions oi e leng ay be	n p.5.3 h. shippe	i-5. d with	switc	h.		·		,.						J
								24									D
				_	Ø	3.2	.8.										
Lead wire with	n				5	4	÷.	للہ									-X
connector	ļ			17.	Ĩ	7	$\mathcal{P}$	-(@	)								
<b>-</b>	- 03	<u>.</u> 4	1	ndica	ator I	ight,	7		J								20-
	ĺ		D-	A800	): india	ator	liaht	ב	L,								
			VVI	inoui	muic	aiui	iigint										
	] .ø1	0							1								Technica
	1	-					e	Op	erati	on ra	inge	(Refe	er to t	he ta	ble b	elow.)	Data
		18.6					0 =										
		1					<u></u>	Mo	st se	nsitiv	e po:	sition					
Operation R	ana	e (	/ Di	mei	nsid	nn)	-	23	-							<i>,</i> , ,	
oporation n		• ( )				<u>, , , , , , , , , , , , , , , , , , , </u>		Bore	size							(mm)	
Actuator series	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160	
CDJ2, CDVJ		8	-	—	9	—	-	—	_	—	-	-	-	—	—		
CDQ2	<u> </u>	_	10	_	12	12	12	12	11	10	12	12	13	13	13	13	
CDXW P	-	6	-	-	6	6	6	6	-	_	-	—	-	—	—	—	
CDY1S	6	6	-	6	_	6	6	6	6	—	-	—	-	—	—	_	
CY1L	6	6	-	6	—	6	6	6	6	-	-	_	-	—	—	_	
	+	_	-	_	_	12	12	12	11	10	12	_	_	_	_		
CE1	-	-	10	_	_	12		12	11	10	12	_	-	_	_	_	
MK, MK2	_	-	-	—	—	12	12	12	11	10	12	_	—	—	—	_	
CXT	-	-		—	_	_	-	12	11	_	-	_	_	—	—	_	

Note) Average value at normal temperature including hysteresis. (Tolerance ± 30%)

# **Reed Switch/Tie-rod Mounting** *D-A5* //*D-A6*

### Grommet



### **Applicable Actuator Series**

Series	Bore size (mm)
CDA1, CDBA1, CDV3, CDVS, CDLA, CE2, CNA	ø40, ø50, ø63, ø80, ø100
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDS1	ø125, ø140, ø160, ø180, ø200
MDB, MDBB	ø32, ø40, ø50, ø63, ø80, ø100

### **Specifications**

Specifications	PLC: Programmable Logic Contro										
D-A5 (With indicator light)											
Auto switch model number	D-A53		D-A54		D-A56						
Application	PLC		Relay/PLC		IC circuit						
Load voltage	24V DC	24V DC	100V AC	200V AC	4 to 8V DC						
Max. load current and range	5 to 50mA	5 to 50mA	5 to 25mA	5 to 12.5mA	20mA						
Contact protection circuit	None	None Built-in									
Internal voltage drop		2.4V 0.8V									
Indicator light	ndicator light ON: When red light emitting diode										

ON: When red light emitting diode

### D-A6 (Without indicator light)

-				
Auto switch model number		D-A67		
Application		PLC/IC circuit		
Load voltage	≤ 24V <sup>AC</sup> <sub>DC</sub>	100V AC	200V AC	MAX. 24V DC
Max. load current	50mA	25mA	12.5mA	30mA
Contact protection circuit		Built-in		None
Internal resistance		≤ 10Ω		≤ 1Ω (Including 3m lead wire)

**Internal Circuit** 

### (): If not applicable for IEC Standard



-Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m or ø4, 0.2mm<sup>2</sup>, • Lead wire -3 cores (Brown, Black, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length

### Dimensions





(mm)

### **Operation Range (** *l* **Dimension)**

Actuator corias					E	ore siz	е				
Actualor series	32	40	50	63	80	100	125	140	160	180	200
CDA1, CDBA1, CDV3, CNA, CDVS, CDLA, CE2	I	9	10	11	11	11		-	—	I	_
CDL1	_	9	10	11	11	11	10	10	10	_	_
CDS1			—	—	—		10	10	10	10	10
MDB, MDBB	9	9	10	11	11	11	-	—	—		—

Note) Average value at normal temperature including hysteresis. (Tolerance ± 30%)

# **Reed Switch/Tie-rod Mounting** D-A33C/D-A34C/D-A44C

### Terminal conduit: D-A3□C **DIN terminal: D-A44C**



### Internal Circuit



### **Applicable Actuator Series**

Series	Bore size (mm)
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CE2, CNA	ø40, ø50, ø63, ø80, ø100

Specifications		PL	.C: Programmab	le Logic Controlle			
D-A3 C (With indica	ator light) Te	erminal cond	luit				
Auto switch model number	D-A33C		D-A34C				
Application	PLC		Relay/PLC				
Load voltage	24V AC	24V DC	100V AC	200V AC			
Load current range	5 to 50mA	5 to 50mA	5 to 25mA	5 to 12.5mA			
Contact protection circuit	None		Built-in				
Internal voltage drop		≤ 2	.4V				
Indicator light	(	ON: When red lig	ht emitting diod	le			
D-A44C (With indica	tor light) DI	V terminal					
Auto switch model number		D-A	44C				
Application		Relay	/PLC				
Load voltage	24V DC	100	/ AC	200V AC			
Load current range	5 to 50m/	A 5 to 2	25mA	5 to 12.5mA			
Contact protection circuit	Built-in						
Internal voltage drop	≤ 2.4V						
Indicator light	(	ON: When red lig	pht emitting diod	le			

Note) Refer to common specifications on p.5.3-5.

### A Caution

Precautions ①Use cable whose O. D. is within the size in the figure to maintain water resistant performance.

2 After wiring, confirm that tightening gland and all screws are tightened.

### Dimensions



### **Operation Range (***t* **Dimension)**

Actuator aprica		Bore	e size (	mm)	
Actuator series	40	50	63	80	100
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA	9	10	11	11	11
Note) Average value at	norm	al tom	oratur	o inclu	ding

ature including Average value at norm hysteresis. (Tolerance ± 30%)

### Dimensions

								(111)
Switch part No.	Bore size (mm)	с	нw	н	H,	т	Τ'	Z
D-A3□C-4, D-A44C-4	40	44	69	58(67.5)	50.5(60)	7.5	6.5	
D-A3□C-5, D-A44C-5	50	52	77	59(68.5)	51.5(61)	8.5	6.5	
D-A3□C-6, D-A44C-6	63	64	91	61.5(71)	53(62.5)	10.5	7.5	M5 X 0.8 X 20
D-A3□C-8, D-A44C-8	80	78	107	65(74.5)	54.5(64)	12.5	9.5	
D-A3 C-10, D-A44C-10	100	92	121	68(77.5)	57.5(67)	15.5	9.5	1015 × 0.6 × 25
* (): Values for D-A44C								5 3-18

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# **Reed Switch/Direct Mounting** D-A90/D-A93/D-A96

Grommet **Electrical entry: In-line** 



**Internal Circuit** (): If not applicable for IEC Standard





Note) 1 In the case operation load is an inductive load. 2 In the case the wiring length to load is ">" 5m. ③In the case the load voltage is 100V AC.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box

### Dimensions



### **Operation Range (***t* **Dimension)**

Actuator						В	ore siz	ze					
series	6	8	10	12	16	20	25	32	40	50	63	80	100
CDU	5	—	6	—	9	11	12.5	14	—	—	-	_	-
CDQS	-	—	-	6	7.5	10	10	-	—	—	-	-	-
CDQ2	-	—	—	—	-	—	-	9.5	9.5	9.5	11.5	9	11.5
MY1	-	—	-	_	5	5	-	—	—	—	-		-
MXU	5	-	6	_	9	—	-	—	_	—	-	_	
MXW	—	6	-	6	8.5	10	10	-	—	—	-		-
MXF	—	4.5	—	5	6	7	-	—	_	—	-	_	
MXS	4.5	5	—	6	7	8	8	—	_	—	-	-	-

### **Applicable Actuator Series**

Series	Bore size (mm)						
CDU	ø6, ø10, ø16, ø20, ø25, ø32						
<b>CDQS</b> Ø12, Ø16, Ø20, Ø25							
CDQ2*	ø32, ø40, ø50, ø63, ø80, ø100						
MY1	ø16, ø20						
MXU	ø6, ø10, ø16						
MXW	ø8, ø12, ø16, ø20, ø25						
MXF	ø8, ø12, ø16, ø20						
MXS/MXQ	ø6, ø8, ø12, ø16, ø20, ø25						
*Not applicable	for CDQP2						

D-A90 (Without indicator light)

Series	Bore size (mm)
MXP	ø10, ø12, ø16
MTS	ø20, ø25, ø32, ø40
СХТ	ø12, ø16, ø20, ø25, ø32, ø40
МК	ø12, ø16
MK2	ø32, ø40, ø50, ø63
RSQ	ø12, ø32, ø40, ø50
CEP	ø12, ø20
CY1R	ø6, ø10, ø15, ø20

Specifications

PLC: Programmable Logic Controller

	······································							
Auto swich modle number	D-A90							
Application		IC circuit/Relay/PLC						
Load voltage	24V <sup>AC</sup> or less	48V <sup>AC</sup> <sub>DC</sub> or less	100V <sup>AC</sup> or less					
Max. load current	50mA	40mA	20mA					
Contact protection circuit		None						
Internal resistance	1Ω c	or less (Including 3m lead	wire)					
D-A93/D-A96	(With indicator lig	jht)						
Auto switch model number	D-4	493	D-A96					
Application	Relay	//PLC	IC circuit					
Load voltage	24V DC	100V AC	4 to 8V DC					
Max. load current and load current range	5 to 40mA	5 to 20mA	20mA					
Contact protection circuit	None							
Internal voltage drop	≤ 2.4V (up to 20mA	)/≤ 3V (up to 40mA)	≤ 0.8V					
Indicator light	ON: When red light emitting diode							

Lead wire

D-A90/D-A93 Oilproof vinyl heavy insulation cable, ø2.7, 0.18mm<sup>2</sup> X 2cores (Brown, Blue), 0.5m D-A96-- Oilproof vinyl heavy insulation cable, ø2.7, 0.15mm<sup>2</sup> X 3cores (Brown, Black, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length

(mm)

### ▲ Caution

#### Precautions

①Fix the switch with appropriate screw installed on the switch body. If using other screws, switch may be damaged.

### Operation Range ( *l* Dimension)

Actuator						Bore	e size					
series	6	8	10	12	15	16	20	25	32	40	50	63
MXQ	4.5	5	—	6	-	7	8	9	—	-	—	-
MXP	—	_	5	5	—	5	—	—	—	—	—	—
MTS	—	—	—	-	—	—	7.5	8	7	8	—	-
СХТ	—	_	—	6	—	7.5	10	10	9.5	9.5	-	—
MK	—	_	—	6	—	7.5	-	—	—	-	—	-
MK2	_	_	—	—	—	—	—	—	9.5	9.5	9.5	11.5
RSQ	—	_	—	-	—	—	-	—	9.5	9.5	9.5	-
CEP	—	—	-	5	-	-	6.5	-	-	-	-	-
CY1R	9	—	13	—	8	—	6	—	-	-	—	_
									( <b>—</b> )			

(mm)

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# **Reed Switch/Direct Mounting** D-A90V/D-A93V/D-A96V





### **Internal Circuit**

### (): If not applicable for IEC Standard



Load ÕυT Reverse flow Power Reed Black(White) prevent diode ĎC(-(-)Blue(Black)

Note) 1 In the case operation load is an inductive load. 2 In the case the wiring length to load is ">" 5m.  $\textcircled{3}\ensuremath{\mathsf{In}}$  the case the load voltage is 100V AC.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box.

### Dimensions



### Operation Range ( *l* Dimension)

Actuator						В	ore siz	ze					
series	6	8	10	12	16	20	25	32	40	50	63	80	100
CDU	5	—	6	—	9	11	12.5	14	—	-	-		-
CDQS	_	-	_	6	7.5	10	10	_	_	_	-	-	
CDQ2	—	—	_	—	-	—	—	9.5	9.5	9.5	11.5	9	11.5
MY1	_	-	_	_	5	5	-	_	-	_	-	-	
MXU	5	—	6	—	9	—	—	—	—	-	-	_	-
MXW	—	6	—	6	8.5	10	10	-	—	-	-	_	
MXF	_	4.5	_	5	6	7	-	-	_	_	-	_	-
MXS	4.5	5	_	6	7	8	8	—	—	_	-	—	

### **Applicable Actuator Series**

Series	Bore size (mm)
CDU	ø6, ø10, ø16, ø20, ø25, ø32
CDQS	ø12, ø16, ø20, ø25
CDQ2*	ø32, ø40, ø50, ø63, ø80, ø100
MY1	ø16, ø20
MXU	ø6, ø10, ø16
MXW	ø8, ø12, ø16, ø20, ø25
MXF	ø8, ø12, ø16, ø20
MXS/MXQ	ø6, ø8, ø12, ø16, ø20, ø25
*Not applicable	for CDQP2

Series	Bore size (mm)
MXP	ø10, ø12, ø16
MTS	ø20, ø25, ø32, ø40
СХТ	ø12, ø16, ø20, ø25, ø32, ø40
МК	ø12, ø16
MK2	ø32, ø40, ø50, ø63
RSQ	ø12, ø32, ø40, ø50
CEP	ø12, ø20
CY1R	ø6, ø10, ø15, ø20

PLC: Programmable Logic Controller

### Specifications

### D-A90V (Without indicator light)

Auto swich model number	D-A90V							
Application		IC circuit/Relay/PLC						
Load voltage	24V <sub>DC</sub> or less	48V AC or less	100V <sup>AC</sup> <sub>DC</sub> or less					
Max. load current	50mA	40mA	20mA					
Contact protection circuit		None						

#### Internal resistance 1Ω or less (Including 3m lead wire)

D-A93V/D-A96V (With indicator light)							
Auto switch model number	D-A	D-A93V					
Application	Relay	IC circuit					
Load voltag	24V DC	100V AC	4 to 8V DC				
Max. load current and load current range	5 to 40mA	5 to 20mA	20mA				
Contact protection circuit		None					
Internal voltage drop	2.7V (	0.8V or less					
Indicator light	ON: When red light emitting diode						
• Lead wire	•						

D-A90V/D-A93V — Oilproof vinyl heavy insulation cable, ø2.7, 0.18mm<sup>2</sup> X 2cores (Brown, Blue), 0.5m D-A96V-- Oilproof vinyl heavy insulation cable, ø2.7, 0.15mm<sup>2</sup> X 3cores (Brown, Black, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

(mm)

### Caution

#### Precautions

①Fix the switch with appropriate screw installed on the switch body. If using other screws, switch may be damaged.

RB

J

#### Technical Data

### **Operation Range (***l* **Dimension)**

Actuator		Bore size										
series	6	8	10	12	15	16	20	25	32	40	50	63
MXQ	4.5	5	-	6	-	7	8	9	-	-	—	
MXP	—	—	5	5	—	5	-	—	—	—	—	-
MTS	-	—	-	-	—	-	7.5	8	7	8	—	
СХТ	—	—	—	6	—	7.5	10	10	9.5	9.5	—	-
MK	—	—	—	6	—	7.5	-	_	-	-	—	
MK2	—	—	—	—	—	—	-	—	9.5	9.5	9.5	11.5
RSQ	—	—	—	-	—	-	-	_	9.5	9.5	9.5	-
CEP	—	—	—	5	—	—	6.5	_	—	—	—	-
CY1R	9	_	13	—	8	—	6		—	—	—	-
Note) Avera	ge valu	ue at n	ormal	tempe	rature	includi	ng hys	teresis	s. (Tole	rance	±30%	)

5.3-20

(mm)

# **Reed Switch/Direct Mounting** D-90/D-97

Grommet							
Lead	wire:	Parallel	cord				



### **Applicable Actuator Series**

Series	Bore size (mm)			
CDJP-□D	ø6, ø10, ø15			
CDU	ø6, ø10, ø16, ø20, ø25, ø32			

### **Specifications**

Specifications PLC: Programmable Logic C							
D-90 (Without indicator lig	ht)						
Auto switch model number	D-90						
Application	Relay/IC circuit/PLC						
Load voltage	5V AC	12V AC	24V AC DC				
Max. load current		50mA					
Internal resistance	1 $\Omega$ or less (Including 3m lead wire)						
D-97 (With indicator light)							
Auto switch model number		D-97					
Application		Relay/PLC					
Load voltage	24V DC						
Load current range		5 to 40mA					
Internal voltage drop	≤ 2.4V						
Indicator light	ON: W	hen red light emitti	ng diode				

• Lead wire — Vinyl parallel cable, 0.2mm<sup>2</sup>, 2 cores, 0.5m

Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions

### D-90



### D-97



### **Operation Range (***l* **Dimension)**

Actuator series		Bore size							
		6	10	15	16	20	25	32	
CDJP-□D		5.5	8	9	—	_	—	_	
CDU	Without shield plate	5.5	7	_	9	11	12	14	
	With shield plate	_		-	7	8	8	9	

(mm)

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

## **Internal Circuit**

(): If not applicable for IEC Standard



Note) (1)In the case operation load is an inductive load. (2)In the case the wiring length to load is ">" 5m.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box

# **Reed Switch/Direct Mounting** D-90A/D-93A

Grommet							
Lead wire: Heavy	y insulation cable						



### **Applicable Actuator Series**

Series	Bore size (mm)			
CDJP-□D	ø6, ø10, ø15			
CDU	ø6, ø10, ø16, ø20, ø25, ø32			

### **Specifications**

Specifications	PLC: Programmable Logic Controlle						
D-90A (Without indicator I	ight)						
Auto switch model number D-90A							
Application	Relay/IC circuit/PLC						
Load voltage	5V AC DC	12V AC DC	24V AC DC	100V AC DC			
Max. load current		50mA		20mA			
Internal resistance	$1\Omega$ or less (Including 3m lead wire)						
D-93A (With indicator ligh	t)						
		_					

## **Internal Circuit**

### (): If not applicable for IEC Standard



Note) (1)In the case operation load is an inductive load. In the case the wiring length to load is ">" 5m. ③In the case the load voltage is 100V AC.

Be sure to use the auto switch with the contact protection

box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box.

## Auto switch model number D-93A

Application		Relay/PLC					
Load voltage		24V DC	100V AC				
Load current rang	ge	5 to 40mA	5 to 20mA				
Internal voltage of	lrop	≤ 2.4V					
Indicator light		ON: When red light emitting diode					

• Lead wire — Oilproof vinyl heavy insulation cable, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions



Most sensitive position

### **Operation Range (***l* **Dimension)**

Operation Range ( <i>l</i> Dimension) (mm)									
Actuator series		Bore size							
		6	10	15	16	20	25	32	
CDJP	P-□D	5.5 8 9			—				
CDU	Without shield plate	5.5	7	—	9	11	12	14	
	With shield plate	—	—	—	7	8	8	9	

29

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# Reed Switch/Direct Mounting D-Z73/D-Z76/D-Z80

#### Grommet



### **Applicable Actuator Series**

D-77 (With indicator light)

Auto switch model number

Series	Bore size (mm)
MGQ, MVGQ, MGP	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
CXS	ø6, ø10, ø15, ø20, ø25, ø32
RSH	ø20, ø32, ø50, ø63, ø80
MY1B	ø25, ø32, ø40, ø50, ø63, ø80, ø100
MY1M, MY1C, CY1R	ø25, ø32, ø40, ø50, ø63
MY1H, ML2B	ø25, ø32, ø40
MGF	ø40, ø63, ø100
CY1H	ø10, ø15, ø20, ø25, ø32

### Specifications

PLC: Programmable Logic Controller

100V  $\frac{AC}{DC}$  or less

20mA

(mm)

	giity				
Auto swich model number	D-Z73		D-Z76		
Application	Relay	IC circuit			
Load voltage	24V DC	100V AC	4 to 8V DC		
Max. load current and load current range	5 to 40mA	5 to 20mA	20mA		
Contact protection circuit		None			
Internal voltage drop	≤ 2.4V (up to 20mA	)/≤ 3V (up to 30mA)	≤ 0.8V		
Indicator light	ON: When red light emitting diode				
D-Z8 (Without indicator light)					

D-Z80

Relay/PLC/IC circuit

48V  $\frac{AC}{DC}$  or less

40mA

None

1 or less (Including 3m lead wire)

# Internal Circuit

#### (): If not applicable for IEC Standard



Note) ①In the case operation load is an inductive load. ②In the case the wiring length to ">" 5m. ③In the case the load voltage is 100V AC.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to the p.5.3-6 for the details of contact protection box. • Lead wire – Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

24V  $\frac{AC}{DC}$  or less

50mA

### Dimensions

Application

Load voltage

Max. load current

Internal resistance

Contact protection circuit



### **Operation Range (***t* **Dimension)**

Actuator carios						Bore	size						
Actuator series	6	10	12	15	16	20	25	32	40	50	63	80	100
MGQ, MVGQ	Ι	—	7.5		8.5	9.5	9.5	11	11	11	13	13	14
CXS	9	7	—	9	—	9	9	11	—		—		—
MGP	Ι	—	7.5		10	10	10	10.5	10.5	10.5	11.5	11.5	12
RSH	—	—	—	_	—	8.5	—	7	—	9.5	10.5	11.5	—
MY1B	Ι	—	—	-	—	-	12	12	12	12	12	12	12
MY1M, MY1C	-	—	—	_	—		12	12	12	12	12		—
MY1H, ML2B		-	—		-		12	12	12		—		—
MGF		—	—	-	—		—	—	13.5	-	12		13
CY1H		8	—	6	-	6	6	9	—		-		—
CY1R	Ι	_	—	_	-	-	9	9	11	11	11	_	—

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# Reed Switch/Direct Mounting D-E73A/D-E76A/D-E80A

### Grommet





### Applicable Actuator Series

Series	Bore size (mm)
CDBX	ø10
ML1	ø25, ø32, ø40

PLC: Programmable Logic Controller

### Specifications

D-E7⊡A (With indicator light)						
Auto swich model number	D-E	D-E73A D-E76A				
Application	Relay	IC circuit				
Load voltage	24V DC	100V AC	4 to 8V DC			
Max. load current and load current range	5 to 40mA	5 to 20mA	20mA			
Contact protection circuit		None				
Internal voltage drop	≤ 2	.4V	≤ 0.8V			
Indicator light	ON: V	Vhen red light emitting	g diode			

### D-E80A (Without indicator light)

Auto switch model number		D-E80A				
Application		Relay/PLC/IC circuit				
Load voltage	24V $\frac{AC}{DC}$ or less	48V AC DC	100V AC DC			
Max. load current	50mA	40mA	20mA			
Contact protection circuit		None				
Internal resistance	1Ω or	less (Including 3m lea	ad wire)			

• Lead wire — Oilproof vinyl heavy insulation cable, Ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

### Internal Circuit (): If not applicable for IEC Standard



Note) ①In the case operation load is an inductive load. ②In the case the wiring length to load is ">" 5m. ③In the case the load voltage is 100V AC.

Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to p.5.3-6 for the details of contact protection box.

### Dimensions



### Operation Range ( *l* Dimension) (mm)

Actuator carias	Bore size					
Actuator series	10	25	32	40		
CDBX	6	—	_	_		
ML1	—	6	6	6		

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

RB

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-X

20-

Technical

Data

# 2 Color Indication Style Reed Switch/Band Mounting **D-B59W**

### Grommet

The suitable operating point can be indicated with a green light. (Red  $\rightarrow$  Green  $\leftarrow$  Red)



### **Applicable Actuator Series**

Series	Bore size (mm)
CDM2, CDBM2, CDVM3, CDVM5, CDLM2	ø20, ø25, ø32, ø40
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
CDLG1	ø20, ø25, ø32, ø40
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CE2, CNA	ø40, ø50, ø63, ø80, ø100
MGC	ø20, ø25, ø32, ø40, ø50
MLGC, RHC, REC	ø20, ø25, ø32, ø40

### Specifications

PLC: Programmable Logic Controller

(mm)

D-B59W (With indicator light)					
Auto switch model number	D-B59W				
Application	Relay/PLC				
Load voltage	24V DC				
Load current range	5 to 40mA				
Contact protection circuit	Built-in				
Internal voltage drop	≤ 4V				
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode				

•Lead wire — Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to the p.5.3-5 for lead wire length.

### **Internal Circuit**

### (): If not applicable for IEC Standard



### Dimensions

0.5

14.3



### **Operation Range (** *l* **Dimension)**

Actuator sories	Bore size							
Actuator series	20	25	32	40	50	63	80	100
CDM2, CDBM2, CDVM3, CDVM5, CDLM2	12	12	13	13	_	_		_
CDG1	13	13	14	14	14	17	16	18
CDLG1	13	13	14	14	—	—	-	—
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA, CE2	_	_	_	14	14	17	16	18
MGG, MGC	13	13	14	14	14	—	_	—
MLGC, RHC, REC	13	13	14	14	_	_	_	_

Note) Average value at normal temperature including hysteresis. (Tolerance  $\pm 30\%$ )

# 2 Color Indication Style Reed Switch/Rail Mounting **D-A79W**

### Grommet

The suitable operating point can be indicated with a green light. (Red  $\rightarrow$  Green  $\leftarrow$  Red)



### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ	ø10, ø16
CDLJ2	ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
RSDQ	ø20, ø25, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

### Specifications

PLC: Programmable Logic Controller

D-A79W (With indicator light)					
Auto switch model number	D-A79W				
Application	Relay/PLC				
Load voltage	24V DC				
Load current range	5 to 40mA				
Contact protection circuit	None				
Internal voltage drop	≤ 4V				
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode				

### Internal Circuit

### (): If not applicable for IEC Standard



Note) ①In the case operation load is an inductive load. ②In the case the wiring length to load is more than 5m. Be sure to use the auto switch with the contact protection box in any case mentioned above. Refer to the p.5.3-6 for the details of contact protection box. •Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on the p.5.3-5.

Note 1) Refer to common specifications on the p.5.3-5. Note 2) Refer to the p.5.3-5 for lead wire length.

### Dimensions



### Operation Range ( $\ell$ Dimension)

Actuator carias		Bore size														
Actualor series	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDVJ	—	11	—	_	13	—	—	—	—	—	—	—	—	—	_	-
CDLJ2	-		—	-	13	-	—	—	—	—	—	—	—	—	-	
CDQ2	—	_	13	—	13	13	13	13	14	14	16	15	17	17	17	17
RSDQ	-		—	-		13	13	13	14	14	—	—	—	—	-	
MDU	—	_	—	—	_	—	13	13	14	14	14	—	—	—	—	_
CE1	-		13			13	—	13	14	14	16	-	—	—		
MK, MK2	—	—	—	—	_	13	13	13	14	14	16	—	—	—	—	_
CXT	—	-	—	—	-	—	—	13	14	—	—	—	—	—	—	-

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

(mm)

# 2 Color Indication Style Reed Switch/Tie-rod Mounting **D-A59W**

### Grommet

The suitable operating point can be indicated with a green light. (Red  $\rightarrow$  Green  $\leftarrow$  Red)



### **Applicable Actuator Series**

Series	Bore size (mm)
CDA1, CDBA1, CDV3, CDVS, CDLA, CE2, CNA	ø40, ø50, ø63, ø80, ø100
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDS1	ø125, ø140, ø160, ø180, ø200
MDB, MDBB	ø32, ø40, ø50, ø63, ø80, ø100
Specifications	PLC: Programmable Logic Controller
D-A59W (With indicator lig	ght)
Auto switch model number	D-A59W
Application	Relay/PLC
Load voltage	24V DC
Load current range	5 to 40mA
Contact protection circuit	Built-in
Internal voltage drop	≤ 4V
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode

•Lead wire — Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

## Internal Circuit

(): If not applicable for IEC Standard



### Dimensions



### **Operation Range (***ℓ* **Dimension)**

											. ,
Actuator parioa	Bore size										
Actuator series	32	40	50	63	80	100	125	140	160	180	200
CDA1, CDBA1, CDV3, CDVS, CDLA, CE2, CNA	_	13	13	14	14	15		-	_	_	_
CDL1	—	13	13	14	14	15	17	17	17	—	-
CDS1	—	-		-	—	—	17	17	17	17	17
MDB, MDBB	13	13	13	14	14	15	_	_	_	_	_

(mm)

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# **Solid State Switch**

General Purpose Auto Switch, 2 Color Indication Style, 2 Color Indication Style with Diagnostic Output, Water Resistant 2 Color Indication Style, With Timer, Strong Magnetic Field Resistant Style

Style	Function	Mounting method	Electrical entry	Auto switch model No.	Page	
				D-H7A1/H7A2/H7B	5.3-29	
			Grommet	D-G59/G5P/K59	5.3-30	
		Band	Connector	D-H7C	5.3-31	
	itch			D-G39/K39	5.3-32	
	SW		Terminal conduit	D-G39A/K39A	5.3-33	
	Ito			D-F79/F7P/J79	5.3-34	
	e al	Rail	Grommet	D-F7NV/F7PV/F7BV	5.3-35	
	086		Connector	D-J79C	5.3-36	
	urp		Grommet	D-F59/F5P/J51/J59	5.3-37	
	l pu	Tie-rod	Terminal conduit	D-G39C/K39C	5.3-38	
	era			D-F9N/F9P/F9B	<b>5 2 20</b>	
	ien			D-F9NV/F9PV/F9BV	5.3-39	
	<b>O</b>	Direct	Grommet	D-Y59A/Y59B/Y7P	E 2 40	
				D-Y69A/Y69B/Y7PV	5.3-40	
				D-M5N/M5P/M5B	5.3-41	
	<u>e</u>		<b>F</b>	D-H7NW/H7PW/H7BW	5.3-42	
	sty	Band	Grommet	D-G59W/G5PW/K59W	5.3-43	
	on			D-F79W/F7PW/J79W	5.3-44	
ے	cati	Rail	Grommet	D-F7NWV/F7BWV	5.3-45	
itc	ndi	Tie-rod	Grommet	D-F59W/F5PW/J59W	5.3-46	
Ň	or i		Г	D-M5NW/M5PW/M5BW	5.3-47	
9	l lo	Direct	Grommet	D-Y7NW/Y7PW/Y7BW	5 3-48	RB
tat	2 (			D-Y7NWV/Y7PWV/Y7BWV	5.5-40	
<u>v</u>			-	D-F9NW/F9PW/F9BW	5 3-66	J
olid			L	D-F9NWV/F9PWV/F9BWV	5.5-00	D
Sc	ut ut		Г	D-H7LF(Latching style)	5.3-49	-Y
	utp [	Band	Grommet	D-H7NF	5.3-50	-~
	tic c			D-G59F	5.3-51	20-
	dica		Crommet	D-F7LF(Latching style)	5.3-52	
	ir in liag	Rail	Gronniet	D-F79F	5.3-53	
	tith d		Crommet	D-F59F	5.3-54	Technical
	× 1	l ie-rod	Gronniet	D-F5LF(Latching style)	5.3-65	Data
	ant yle	Dand		D-H7BAL	5.3-55	
	or n st	Band	Grommet	D-G5BAL	5.3-56	
·	atio	Rail	Grommet	D-F7BAL	5.3-57	
	Nate	Tie-rod	Grommet	D-F5BAL	5.3-58	
		Direct	Grommet	D-Y7BAL	5.3-63	
				D-F9BAL	5.3-67	
	5	Band	Grommet	D-G5NTL	5.3-59	
	<u>iii</u>	Rail	Grommet	D-F7NTL	5.3-60	
		Tie-rod	Grommet	D-F5NTL	5.3-61	
	Š	Direct	Grommet	D-M5NTL/M5PTL	5.3-62	
	Magnetic field re- sistance	Rail	Grommet	D-P5DWL	5.3-64	

# Solid State Switch/Band Mounting **D-H7A1/D-H7A2/D-H7B**

### Grommet



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2	ø6, ø10, ø16
CDVJ3, CDVJ5	ø10, ø16
CDLJ2	ø16
CDM2, CDBM2, CDVM3, CDVM5, CDLM2, CDLG1, REC	ø20, ø25, ø32, ø40
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63
RSDG	ø40, ø50
MGC	ø20, ø25, ø32, ø40, ø50
RHC, MLGC	ø20, ø25, ø32, ø40

## Specifications

PLC: Programmable Logic Controller

(mm)

	lior light)				
Auto switch model number	D-H7A1	D-H7A2	D-H7B		
Wiring	3 w	2 wire			
Output	NPN	PNP	—		
Application	IC circuit/F	24V DC Relay/PLC			
Power voltage	5/12/24V DC (4	-			
Current consumption	10mA	_			
Load voltage	28V DC or less	_	24V DC (10 to 28V DC)		
Load current	40mA or less	80mA or less	5 to 40mA		
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA) of load current	0.8V or less	4V or less		
Current leakage	≤ 100μA a	at 24V DC	≤ 0.8mA at 24V DC		
Indicator light	ON: When red light emitting diode				

### **Internal Circuit**

### (): If not applicable for IEC Standard



 Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions



### **Operation Range (***l* **Dimension)**

Actuator sorios	Bore size										
Actuator series		10	15	16	20	25	32	40	50	63	
CDJ2	3	4	—	4	—	—	-	-	—	—	
CDVJ3, CDVJ5	-	4	—	4	-	_	-	-	—	—	
CDLJ2	-	—	-	4	—	—	-	-	—	-	
CDM2, CDBM2, CDVM3,					4	4	4.5	5	_		
CDVM5, CDLM2, CDLG1, REC					4						
CDG1, MGG	-	—	-	-	4	4	4.5	5	6	6.5	
RSDG	-	—	—	-	-	_	-	5	6	—	
MGG, MGC	-	_	_	_	4	4	4.5	5	6	_	
RHC, MLGC	—	—	—	—	4	4	4.5	5	—	—	

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# Solid State Switch/Band Mounting D-G59/D-G5P/D-K59

### Grommet



### **Applicable Actuator Series**

Series	Bore size (mm)
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA	ø40, ø50, ø63, ø80, ø100
MGC	ø20, ø25, ø32, ø40, ø50
RHC, MLGC, REC	ø20, ø25, ø32, ø40
CE2	ø40, ø50, ø63, ø80, ø100

### Specifications

PLC: Programmable Logic Controller

D-G5□/D-K59 (Wi	ith indicator ligh	t)				
Auto switch model number	D-G59	D-G5P	D-K59			
Wiring	3 w	2 wire				
Output	NPN	PNP				
Application	IC circuit/F	24V DC Relay/PLC				
Power voltage	5/12/24V DC (4					
Current consumption	10mA					
Load voltage	28V DC or less		24V DC (10 to 28V DC)			
Load current	40mA or less	80mA or less	5 to 40mA			
Internal voltage drop		0.8V or less	4V or less			
Current leakage	≤ 100μA a	at 24V DC	≤ 0.8mA at 24V DC			
Indicator light	ON: V	ON: When red light emitting d				

•Lead wire — Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### **Internal Circuit**

### (): If not applicable for IEC Standard







### **Dimensions**



### **Operation Range (***t* **Dimension)**

Actuator series		Bore size									
		25	32	40	50	63	80	100			
CDG1, MGG	4	4	4.5	5	6	6.5	6.5	7			
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA	_	-	-	5	6	6.5	6.5	7			
MGC	4	4	4.5	5	6	-	—	-			
RHC, MLGC, REC	4	4	4.5	5	-	-	—	—			
CE2	—	-	-	5	6	6.5	6.5	7			

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

Technical Data

(mm)

# Solid State Switch/Band Mounting D-H7C

### Connector



### ▲ Caution

### **Precautions**

①Confirm that the connector is appropriately tightened. If tightened insufficiently, the water resistant performance will deteriorate. 2 Refer to p.5.3-68 for the details.

### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2	ø6, ø10, ø16
CDVJ3, CDVJ5	ø10, ø16
CDLJ2	ø16
CDM2, CDBM2, CDVM3, CDVM5, CDLM2, CDLG1, REC	ø20, ø25, ø32, ø40
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63
RSDG	ø40, ø50
MGC	ø20, ø25, ø32, ø40, ø50
RHC, MLGC	ø20, ø25, ø32, ø40

### **Specifications**

PLC: Programmable Logic Controller

•Lead wire ---- Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions





### **Operation Range (***l* **Dimension)**

Operation Range	( e D	umer	ision	)						(mm)		
Actuator aprica		Bore size										
Actuator series	6	10	15	16	20	25	32	40	50	63		
CJ2	5	8	—	9	—	—	—	—	—	_		
CDVJ3, CDVJ5	—	8	—	9	—	—	—	—	_	—		
CDLJ2	—	_	—	9	—	_	—	_	—	_		
CDM2, CDBM2, CDVM3,	_	_	_	_	7	85	٩	10	_	_		
CDVM5, CDM2, CDLG1, REC					, '	0.0	3	10				
CDG1, MGG	—	—	—	—	7	8.5	9	10	9.5	10.5		
RSDQ	—	—	—	—	—	—	—	10	9.5	—		
MGC	—	—	—	—	7	8.5	9	10	9.5	_		
RHC. MLGC	_	_	_	_	7	8.5	9	10	_	_		

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

### **Internal Circuit** (): If not applicable for IEC Standard



# Solid State Switch/Band Mounting D-G39/D-K39

### **Terminal conduit**



### **Applicable Actuator Series**

Series	Bore size (mm)
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	ø40, ø50, ø63, ø80, ø100
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDS1	ø125, ø140, ø160, ø180, ø200
CE2	ø40, ø50, ø63, ø80, ø100
RHC	ø20, ø25, ø32, ø40

### **Specifications**

Specifications		PLC: Programmable Logic Controller						
D-G39/D-K39 (With indicator light)								
Auto switch model number	D-G39	D-K39						
Wiring	3 wire	2 wire						
Output	NPN							
Application	IC circuit/Relay/PLC	24V DC Relay/PLC						
Power voltage	5/12/24V DC (4.5 to 28V DC)							
Current consumption	≤ 10mA							
Load voltage	≤ 28V DC	24V DC (10 to 28V DC)						
Load current	≤ 40mA	5 to 40mA						
Internal voltage drop	≤ 1.5V (0.8V or less at 10mA) (of load current	≤ 4V						
Current leakage	100μA or less at 24V DC	0.8mA or less at 24V DC						
Indicator light	ON: When red light emitting diode							

### ▲ Caution

**Internal Circuit** 

Switch

Switch mai circuit

sircuit

И

ĸ

D-G39

**D-K39** 

### **Precautions**

1 Use cable whose  $\mbox{ O. D.}$  is within the size in the figure to maintain water resistant performance.

2 After wiring, confirm that tightening gland and all screws are tightened.

DC(+)

OUT

1st terminal

2nd terminal

DC(–) 3rd terminal

OUT(+)

OUT(-) 2nd terminal

1st terminal

Note) Refer to common specifications on p.5.3-5

### Dimensions



Operation	Range	(1	Dimensio	n)	)
-----------	-------	----	----------	----	---

Actuator sories		Bore size													
Actuator series	20	25	32	40	50	63	80	100	125	140	160	180	200		
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	_	_		9	9	10	10	11	_	I	_	_	_		
CDL1	—	—	-	9	9	10	10	11	11	11	10	_	—		
CDS1	-	—	—	—	—	—	—	—	11	11	10	10	10		
CE2	_	_	_	9	9	10	10	11	_	_	_	_	_		
RHC	8	9	9	9	-	—	-	—	—	-	—	—	—		

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

# RB J D -X 20-

#### Technical Data

(mm)

# Solid State Switch/Band Mounting D-G39A/D-K39A

### **Terminal conduit**



### ▲ Caution

### **Precautions**

①Use cable whose O. D. is within the size in the figure to maintain water resistant performance.

2 After wiring, confirm that tightening gland and all screws are tightened.

### **Internal Circuit**



### **Applicable Actuator Series**

Series	Bore size (mm)
CDM2, CDBM2, CDLM2	ø20, ø25, ø32, ø40

### **Specifications**

Specifications	PLC: Programmable Logic Controlle							
D-G39A/D-K39A								
Auto switch model number	D-G39A	D-K39A						
Wiring	3 wire	2 wire						
Output	NPN							
Application	IC circuit/Relay/PLC	24V DC Relay/PLC						
Power voltage	5/12/24V DC (4.5 to 28V DC)							
Current consumption	≤ 10mA							
Load voltage	≤ 28V DC	24V DC (10 to 28V DC)						
Load current	≤ 40mA	5 to 40mA						
Internal voltage drop	1.5V or less (0.8V or less at 10mA) of load current	4V or less						
Current leakage	100 $\mu$ A or less at 24V DC	0.8mA or less at 24V DC						
Indicator light	ON: When red light emitting diode							

Note) Refer to common specifications on p.5.3-5.

### Dimensions



### **Operation Range (***ℓ* **Dimension)**

Actuator series	Bore size							
Actualor series	20	25	32	40				
CDM2, CDBM2, CDLM2	8	9	9	9				
table Average value at permet temperature including hystoresis. (Telerance - 20%)								

(mm)

at normal temperature including hysteresis. (Tolerance ±30%)

# Solid State Switch/Rail Mounting D-F79/D-F7P/D-J79

#### Grommet



### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ3, CDVJ5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD□XW	Plate mounted(P), ø10, ø16, ø20, ø25, ø32, Housing mounted(B), ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø25, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

### **Specifications**

PLC: Programmable Logic Controller

D-F7□/D-J79 (With indicator light)										
Auto switch model number	D-F79	D-J79								
Wiring	3 w	3 wire								
Output	NPN	PNP	_							
Application	IC circuit/F	24V DC Relay/PLC								
Power voltage	5/12/24V DC (4	_								
Current consumption	≤ 10	_								
Load voltage	≤ 28V DC	—	24V DC (10 to 28V DC)							
Load current	≤ 40mA	80mA or less	5 to 40mA							
Internal voltage drop	1.5V or less (0.8V or less at 10mA) of load current	0.8V or less	4V or less							
Current leakage	≤ 100μA a	≤ 0.8mA at 24V DC								
Indicator light	ON: When red light emitting diode									

### **Internal Circuit**

### (): If not applicable for IEC Standard

D-F79



Blue(Black)

•Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Dimensions**



### **Operation Range (** *t* **Dimension)**

Actuator co	rioc		Bore size														
Actuator se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDVJ3, C	DVJ5	_	5		-	5	-	—	_	—	-	_	-	_		—	_
CDQ2			—	5.5	—	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
	В		—			4	25	3.5	4								
	Ρ		3			2.5	3.5	3.5	2.5						_		
CDY1S, CY1	L	3	3	—	4	—	3	3	3	3.5	_	—	_	—	—	—	_
RSDQ			—	—	_	—	5.5	—	6	6	6	—		—	—	—	
MDU		_	—	—	—	_	_	6.5	7	6.5	6.5	6.5	_	_	—	-	_
CE1		_	—	5.5	—	—	5.5	—	6	6	6	6.5		—	—	—	_
MK, MK2		-	—	-	—	—	5.5	5	6	6	6	6.5	-	—	-	-	-
СХТ		_	_	-	_	_	-	-	6	6	_	-	_	—	_	-	_

Note) Average value at normal temperature including hysteresis. (Tolerance  $\pm 30\%$ )

(mm)

# Solid State Switch/Rail Mounting D-F7NV/D-F7PV/D-F7BV

### Grommet **Electrical entry: Perpendicular**



### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ3, CDVJ5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD□XW	Plate mounted(P), ø10, ø16, ø20, ø25, ø32, Housing mounted(B), ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

### **Specifications**

PLC: Programmable Logic Controller

(mm)

D-F7□V (With indicator light)										
Auto switch model number	D-F7NV	D-F7BV								
Wiring	3 w	2 wire								
Output	NPN	_								
Application	IC circuit/F	24V DC Relay/PLC								
Power voltage	5/12/24V DC (4									
Current consumption	≤ 10									
Load voltage	≤ 28V DC		24V DC (10 to 28V DC)							
Load current	≤ 40mA	≤ 80mA	5 to 40mA							
Internal voltage drop		0.8V or less	4V or less							
Current leakage	≤ 100μA a	≤ 0.8mA at 24V DC								
Indicator light	ON: When red light emitting diode									

•Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions



### **Operation Range (***l* **Dimension)**

Actuator carios		Bore size															
Actualor se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDVJ3, C	DVJ5	_	5	Ι	-	5	-	—	_	—	-	—		—		—	_
CDQ2		—	—	5.5	—	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
	В		—			4	25	3.5	4	_	Ι	_	-	_		_	
	Ρ		3			2.5	3.5	3.5	2.5								
CDY1S, CY1	L	3	3		4	—	3	3	3	3.5	-	—		—		—	—
RSDQ		_	—	—	—	—	5.5	—	6	6	6	—	-	—	-	—	—
MDU		-	—		—	—	_	6.5	7	6.5	6.5	6.5		—		—	—
CE1		_	—	5.5	—	—	5.5	—	6	6	6	6.5	-	—	_	—	-
MK, MK2			—	-	—	—	5.5	5	6	6	6	6.5		—		—	—
СХТ		_	_	_	_	_	_	_	6	6	_	_	_	_	_	_	—

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

### **Internal Circuit**

### (): If not applicable for IEC Standard

### **D-F7NV**



Black(White)

DC(–) Blue(Black)

# Solid State Switch/Rail Mounting **D-J79C**



### **▲** Caution

#### **Precautions**

①Confirm that the connector is appropriately tightened. If tightened insufficiently, the waterproof performance will deteriorate. 2 Refer to p.5.3-68 for the details.

### **Internal Circuit**

### (): If not applicable for IEC Standard



### **Applicable Actuator Series**

Series	Bore size (mm)
001100	2010 0120 ()
CDJ2, CDVJ3, CDVJ5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD□XW	Plate mounted ø10, ø16, ø20, ø25, ø32 Housing munted ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

### **Specifications**

D-J79C	
Auto switch model number	D-J79C
Wiring	2 wire
Output	
Application	24V DC Relay/PLC
Power voltage	
Current consumption	_
Load voltage	24V DC (10 to 28V DC)
Load current	5 to 40mA
Internal voltage drop	≤ 4V
Current leakage	≤ 0.8mA at 24V DC
Indicator light	ON: When red light emitting diode

•Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 0.5m

Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

### Dimensions





PLC: Programmable Logic Controller

RB
J
D
-X
20-

Technical Data

(mm)

### **Operation Range (***t* **Dimension)**

A atuatar aariaa			Bore size														
	Actuator series	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
	CDJ2, CDVJ3, CDVJ5	-	5	-	—	5	-	-	—	-	—	-	—	-	—	-	—
	CDQ2	—	_	5.5	_	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
CD□XW			—			4	3.5	3.5	4					-	—	_	_
			3			2.5		3.5	2.5								
	CDY1S, CY1L	3	3	-	4	-	3	3	3	3.5	—	-	—	-	—	-	—
	RSDQ	-	_	-		-	5.5	—	6	6	6	—	—	_	—	—	—
	MDU	-	—	-	—	-	—	6.5	7	6.5	6.5	6.5	—	_	—	-	—
	CE1	-	—	5.5	_	-	5.5	-	6	6	6	6.5	—	-	—	-	-
	MK, MK2	-	—	-	—	-	5.5	5	6	6	6	6.5	—	-	—	-	—
	СХТ	-	_	-	_	—	—	—	6	6	—	—	—	_	—	—	_

Note) Average value at normal temperature including hysteresis. (Tolerance  $\pm 30\%$ )

# Solid State Switch/Tie-rod Mounting D-F5 //D-J5

#### Grommet



# Internal Circuit (): If not applicable for IEC Standard



## D-J59



### **Applicable Actuator Series**

Series	Bore size (mm)							
CDA1, CDBA1, CDV3, CDVS1,	a40 a50 a63 a80 a100							
CDLA, CNA								
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160							
CDS1	ø125, ø140, ø160, ø180, ø200							
CE2	ø40, ø50, ø63, ø80, ø100							
MDB	ø32, ø40, ø63, ø80, ø100							

### **Specifications**

PLC: Programmable Logic Controller

D-F59	D-F5P	D-J59	D-J51					
3 w	/ire	2 wire						
NPN	PNP							
IC circuit/F	Relay/PLC	24V DC Relay/PLC	AC Relay/PLC					
5/12/24V DC (4	4.5 to 28V DC)							
≤ 10	)mA							
≤ 28V DC	_	24V DC (10 to 28V DC)	80 to 260V AC					
≤ 40mA	≤ 80mA	5 to 40mA	5 to 80mA					
$ \begin{pmatrix} 1.5V \text{ or less} \\ (0.8V \text{ or less at } 10mA) \\ \text{of load current} \end{pmatrix} $	0.8V or less	4V or less	14V or less					
- 100u A c		< 0.9mA at 24\/ DC	≤ 1mA at 100 V DC					
≤ 100μΑ a	at 24V DC		≤ 1.5mA at 200V DC					
	ON: When red light emitting diode							
	D-F59 3 w NPN IC circuit/F 5/12/24V DC ( ≤ 28V DC ≤ 40mA 1.5V or less (0.8V or less at 10mA) of load current ≤ 100µA a	D-F59D-F5P $3  ext{wire}$ NPNPNPIC circuit/Relay/PLC $5/12/24V$ DC (4.5 to 28V DC) $\leq 10mA$ $\leq 28V$ DC— $\leq 40mA$ $\leq 80mA$ 1.5V or less (0.8V or less at 10mA)0.8V or less 0.8V or less $\leq 100\muA$ at 24V DCON: When red lig	D-F59         D-F5P         D-J59           3 $\forall$ I         2 w           NPN         PNP            IC circuit/Relay/PLC         24V DC Relay/PLC           5/12/24V DC (4.5 to 28V DC)            ≤ 10mA            ≤ 28V DC            ≤ 40mA         ≤ 80mA         5 to 40mA           1.5V or less (0.8V or less at 10mA) of load current         0.8V or less         4V or less           ≤ 100µA at 24V DC         ≤ 0.8mA at 24V DC         ON: When red light emitting diode					

•Lead wire — Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on the p.5.3-5. Note 2) Refer to the p.5.3-5 for lead wire length.

#### Dimensions

\*D-J51 differs in the shape, most sensitive position and operation range from other switches. Contact SMC for the details.



9.5 Operation range (Refer to the table below.)

(mm)

### **Operation Range (***t* **Dimension)**

											, ,				
Actuator series		Bore size													
		40	50	63	80	100	125	140	160	180	200				
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	—	4	4	4.5	4.5	4.5	—	—	—	_	_				
CDL1	-	4	4	4.5	4.5	4.5	5	5	5.5	_	-				
CDS1	-	_	—	_	—	—	5	5	5.5	6	6				
CE2	-	4	4	4.5	4.5	4.5	—	—	—	_	-				
MDB	3.5	4	4	4.5	4.5	4.5	—	—	—		—				

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)
## Solid State Switch/Tie-rod Mounting **D-G39C/D-K39C**

#### **Terminal conduit**



#### ▲ Caution

**Internal Circuit** 

mair

Switch

Switch mair circuit

sircuit

К

К

D-G39C

D-K39C

#### **Precautions**

Use cable whose O. D. is within the size in the figure to maintain water resistant performance.

②After wiring, confirm that tightening gland and all screws are tightened.

• DC(+)

OUT

DC(–) 3rd terminal

OUT(+)

1st terminal

OUT(–) 2nd terminal

1st terminal

2nd terminal

#### **Applicable Actuator Series**

Se	Bore size (mm)						
CDA1, CDBA1, CDV3, C	ø40, ø50, ø63, ø80, ø100						
C	E2	ø40, ø50, ø63, ø80, ø100					
Specifications PLC: Programmable Logic							
D-G39C/D-K39C							
Auto switch model number	D-G39C	D-K39C					
Wiring	3 wire	2 wire					
Output	NPN						
Application	IC circuit/Relay/PLC	24V DC Relay/PLC					
Power voltage	5/12/24V DC (4.5 to 28V DC)						
Current consumption	≤ 10mA						
Load voltage	≤ 28V DC	24V DC (10 to 28V DC)					
Load current	≤ 40mA	5 to 40mA					
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA of load current)	≤ 4V					
Current leakage	100μA or less at 24V DC	0.8mA or less at 24V DC					
Indicator light	ght emitting diode						
Note 1) Refer to common specifica	tions on p.5.3-5						

Dimensions



#### **Operation Range (***t* **Dimension)**

Actuator aprica	Bore size							
Actuator series	40	50	63	80	100			
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA	9	10	11	11	11			
CE2	9	10	11	11	11			

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

#### Dimensions

Auto switch part number	Bore size (mm)	С	нw	Н	H'	Т	Τ'	Z
D-G39C-4, D-K39C-4	40	44	69	57	49.5	7.5	6.5	
D-G39C-5, D-K39C-5	50	52	77	58	50.5	8.5	6.5	105 X 0.8 X 10
D-G39C-6, D-K39C-6	63	64	91	60.5	52	10.5	7.5	M5 X 0.8 X 20
D-G39C-8, D-K39C-8	80	78	107	64	53.5	12.5	9.5	
D-G39C-10, D-K39C-10	100	92	121	67	56.5	15.5	9.5	M5 X 0.8 X 25



#### Technical Data

(mm)

## Solid State Switch/Direct Mounting D-F9N(V)/D-F9P(V)/D-F9B(V)





#### ▲ Caution

#### **Precautions**

Fix the switch with appropriate screw installed on the switch body. If using other screws, switch may be damaged.

#### **Internal Circuit** (): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDU	ø6, ø10, ø16, ø20, ø25, ø32
CDQ2*	ø32, ø40, ø50, ø63, ø80, ø100
CDQS	ø12, ø16, ø20, ø25
MY1	ø16, ø20
MXW	ø8, ø12, ø16, ø20, ø25
MXF	ø8, ø12, ø16, ø20
MXU	ø6, ø10, ø16

#### **Specifications**

Series	Bore size (mm)						
MXS, MXQ	ø6, ø8, ø12, ø16, ø20, ø25						
MXP	ø10, ø12, ø16						
MTS	<b>S</b> Ø20, Ø25, Ø32, Ø40						
CY1R☆	ø6, ø10, ø15, ø20						
МК	ø12, ø16						
<b>MK2</b> ø32, ø40, ø50, ø63							
∗Not available for series CDQP2 ☆Not available for D-E9⊟V							

PLC: Programmable Logic Controller

D-F9□/D-F9□V (With indicator light)												
Auto switch model number	D-F9N	D-F9NV	D-F9P	D-F9PV	D-F9B	D-F9BV						
Electrical entry	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular						
Wiring	3 wire 2 wire											
Output	N	PN	P	NP	-	_						
Application		IC circuit/F		24V DC Relay/PLC								
Power voltage	5.	/12/24V DC (4	C)	-								
Current consumption		≤ 10		-	_							
Load voltage	≤ 28	V DC	-	_	24V DC (10	to 28V DC)						
Load current	≤ 40	DmA	≤ 8	0mA	5 to 40mA							
Internal voltage drop	1.5V c (0.8V or lead of load cu	or less ss at 10mA) rrent	0.8V	or less	4V o	r less						
Current leakage		100µA or les	s at 24V DC		0.8mA	or less						
Indicator light		ON: When red light emitting diode										

-Oilproof vinyl heavy insulation cable, ø2.7, 3 cores (Brown, Black, Blue), 0.15mm<sup>2</sup>, 2 cores (Brown, Blue), 0.18mm<sup>2</sup>, 0.5m Lead wire — Note 1) Refer to common specifications on p.5.3-5.

#### Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



#### **Operation Range (***l* **Dimension)**

Operation Range ( <i>e</i> Dimension)										(mm)				
		Bore size												
Actuator series	6	8	10	12	15	16	20	25	32	40	50	63	80	100
CDU(Without shield plate)	3		3.5	—	—	5.5	6.5	7	7	Ι	Ι		-	—
CDQ2	—	-	—	—	_	—	—	—	5.5	5.5	5.5	6.5	5.5	6.5
MY1B, MY1H	—	-	—	—	—	4	5	—	—	Ι	Ι			—
MY1C, MY1M	—	—	—	—	—	8.5	6.5	—	—	-	-	-	-	-
MXW	—	3	—	3	—	4	6	5.5	—	I	I			-
MXF	—	2	—	2.5	—	3	4	—	—	_	_	_	_	—
MXU	3	-	3.5	—	—	5.5	—	—	—	-			_	-
MXS, MXQ	2	2.5	—	3	—	4	6	6	—	_	_	_	_	—
CDQS	—	—	—	3	—	4	5	5.5	—	I				-
MK	—	—	—	3	—	4	—	—	—	_	_	_	_	—
MK2	—	—	—	—	-	—	—	—	5.5	5.5	5.5	6.5		-
CY1R	5	—	7	—	5	—	4	—	—	_	_	_	—	-
MXP	—	-	3	3	-	3	-	_	-	-	-	-	_	-
MTS	-	-	—	—	—	—	5	5.5	5.5	5.5	—	—	_	-

## Solid State Switch/Direct Mounting **D-Y59**<sup>A</sup>/**D-Y69**<sup>A</sup>/**D-Y7P(V)**



#### **Applicable Actuator Series**

Series	Bore size (mm)
MGQ, MVGQ, MGP	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
CXS	ø6, ø10, ø15, ø20, ø25, ø32
MY1B	ø25, ø32, ø40, ø50, ø63, ø80, ø100
MY1C, MY1M, CY1R	ø25, ø32, ø40, ø50, ø63
MY1H, ML2B	ø25, ø32, ø40
MGF	ø40, ø63, ø100
CY1H	ø10, ø15, ø20, ø25, ø32
RSH	ø20, ø32, ø50, ø63, ø80

#### **Specifications**

PLC: Programmable Logic Controller

D-Y5/D-Y6/D-Y	(7P/D-Y7	PV (With	indicator	light)			
Auto switch model number	D-Y59A	D-Y69A	D-Y7P	D-Y7PV	D-Y59B	D-Y69B	
Electrical entry	In-line	Perpendicular	In-line	Perpendicular	In-line	Perpendicular	
Wiring		3 w	/ire		2 v	vire	
Output	NF	PN	Iq	NP	-	_	
Application		IC circuit/F		24V DC Relay/PLC			
Power voltage	5/	12/24V DC (4	_				
Current consumption		≤ 10	)mA		-	_	
Load voltage	≤ 28 <sup>v</sup>	V DC	-	_	24V DC (10 to 28V DC)		
Load current	≤ 4(	)mA	80mA	or less	5 to 40mA		
Internal voltage drop	1.5V c 0.8V or les of load cu	or less ss at 10mA) rrent	0.8V (	4V o	r less		
Current leakage		0.8mA or les	ss at 24V DC				
Indicator light	ON: When red light emitting diode						

•Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.15mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length



#### **Operation Range (** *l* **Dimension)**

Operation Range ( <i>i</i> Dimension)											(mm)			
Actuator aprica		Bore size												
Actuator series	6	10	12	15	16	20	25	32	40	50	63	80	100	
MGQ, MVGQ	—	-	5	-	6	6	6.5	8.5	8.5	9	10	10	11.5	
CXS	3	3	-	3.5	—	3.5	4	4.5	—	—	-	—	-	
MGP	—	—	5.5	—	7.5	7.5	7	6.5	6	7	8	9.5	10	
MY1B	—	—	-	-	—	—	6	9	10	3.5	3.5	3.5	3.5	
MY1C, MY1M	—	—	—	—	—	—	5	5	5	5.5	5.5	—	—	
MY1H	—	—	-	-	—	—	6	9	10	—	-	—	-	
RSH	—	—	—	—	—	7.5	—	5	—	6.5	7.5	10	—	
CY1R	—	—	-	-	—	—	7	6	6	7	6	—	-	
CY1H	—	6	-	5	-	5	5	6	_	—	—	—	-	
ML2B	_	_	-	_	_	_	6	6	6	_	_	_	-	
MGF	_	—	-	-	—	_	-	—	9	—	5	_	7.5	

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

#### **Internal Circuit**

#### (): If not applicable for IEC Standard





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Technical

Data

## Solid State Switch/Direct Mounting D-M5N/D-M5P/D-M5B

#### Grommet



#### **Applicable Actuator Series**

Series	Bore size (mm)
MYC	ø25, ø32, ø40
MYH	ø25, ø32, ø40
	ø25, ø32, ø40

#### **Specifications**

PLC: Programmable Logic Controller

D-M5□(With indicator light)										
Auto switch model number	D-M5N	D-M5B								
Wiring	3 w	2 wire								
Output	NPN	PNP								
Application	IC circuit/F	IC circuit/Relay/PLC								
Power voltage	5/12/24V DC (4									
Current consumption	≤ 10	ImA								
Load voltage	≤ 28V DC	—	24V DC (10 to 28V DC)							
Load current	≤ 40mA	≤ 80mA	5 to 40mA							
Internal voltage drop	1.5V or less (0.8V or less at 10mA) of load current	4V or less								
Current leakage	≤ 100μA a	≤ 0.8mA at 24V DC								
Indicator light	ON: When red light emitting diode									

• Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



12.2 Most sensitive position

#### Operation Range ( *t* Dimension) (mm)

Actuator aprica	Bore size						
Actuator series	25	32	40				
MYC	4	4	4				
MYH	4	4	4				
ML1	4	4	4				

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

#### Internal Circuit

(): If not applicable for IEC Standard



## 2 Color Indication Style Solid State Switch/Band Mounting **D-H7NW/D-H7PW/D-H7BW**

#### Grommet

The suitable operating point can be indicated with a green light. (Red  $\rightarrow$  Green  $\leftarrow$  Red)



#### **Internal Circuit**

(): If not applicable for IEC Standard



#### **Indicator light/Operation**



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2	ø6, ø10, ø16
CDVJ3, CDVJ5	ø10, ø16
CDLJ2	ø16
CDM2, CDBM2, CDVM3, CDVM5, CDLM2, CDLG1, REC	ø20, ø25, ø32, ø40
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63
RSDG	ø40, ø50
MGC	ø20, ø25, ø32, ø40, ø50
RHC, MLGC	ø20, ø25, ø32, ø40

#### Specifications

PLC: Programmable Logic Controller

D-H7 W(With	indicator light)					
Auto switch model number	D-H7NW	D-H7PW	D-H7BW			
Viring	3 w	2 wire				
Dutput	NPN	PNP	—			
Application	IC circuit/F	24V DC Relay/PLC				
Power voltage	5/12/24V DC (4	—				
Current consumption	≤ 10	—				
_oad voltage	≤ 28V DC	—	24V DC (10 to 28V DC)			
oad current	≤ 40mA	≤ 80mA	5 to 40mA			
nternal voltage drop		0.8V or less	4V or less			
Current leakage	100μA or les	0.8mA or less at 24V DC				
ndicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode					

• Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



#### **Operation Range (***ℓ* **Dimension)**

Actuator aprico	Bore size										
Actuator series	6	10	15	16	20	25	32	40	50	63	
CDJ2	3	4		4	—	-	-	—	—	—	
CDVJ3, CDVJ5		4	_	4	-	-	_	_	-	_	
CDLJ2	-	-	—	4	—	-	-	—	—	-	
CDM2, CDBM2, CDVM3, CDVM5, CDLM2, CDLG1, BEC	_	_	_	_	4	4	4.5	5	_	_	
							4.5	-		0.5	
		_			4	4	4.5	5	6	6.5	
RSDG	—	-	-	—	—	-	-	5	6	-	
MGG, MGC	-	-	_	-	4	4	4.5	5	6	_	
RHC, MLGC	-	—	—	—	4	4	4.5	5	—	—	

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

Technical Data

(mm)

## 2 Color Indication Style Solid State Switch/Band Mounting D-G59W/D-G5PW/D-K59W

#### Grommet

The suitable operating point can be indicated with a green light. (Red  $\rightarrow$  Green  $\leftarrow$  Red)



#### **Internal Circuit** (): If not applicable for IEC Standard





#### **D-K59W**



#### **Indicator light/Operation**



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA	ø40, ø50, ø63, ø80, ø100
MGC	ø20, ø25, ø32, ø40, ø50
RHC, MLGC, REC	ø20, ø25, ø32, ø40
CE2	ø40, ø50, ø63, ø80, ø100

#### Specifications

PLC: Programmable Logic Controller

D-G5□/D-K59 (With indicator light)							
Auto switch model number	D-G59W	D-G5PW	D-K59W				
Wiring	3 w	2 wire					
Output	NPN	PNP	—				
Application	IC circuit/F	24V DC Relay/PLC					
Power voltage	5/12/24V DC (4	_					
Current consumption	≤ 10	—					
Load voltage	≤ 28V DC		24V DC (10 to 28V DC)				
Load current	≤ 40mA	80mA or less	5 to 40mA				
Internal voltage drop	1.5V or less (0.8V or less at 10mA) of load current	0.8V or less	4V or less				
Current leakage	100μA or les	0.8mA or less at 24V DC					
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode						

- Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Lead wire-Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



#### **Operation Range (***l* **Dimension)**

Operation Range ( <i>l</i> Dimension) (mm)											
		Bore size									
Actuator series	20	25	32	40	50	63	80	100			
CDG1, MGG	4	4	4.5	5	6	6.5	6.5	7			
CDA1, CDBA1, CDV3, CDVS, CDLA, CDL1, CNA	_	_	_	5	6	6.5	6.5	7			
MGC	4	4	4.5	5	6	-	Ι	—			
RHC, MLGC, REC	4	4	4.5	5	_	-	Ι	—			
CE2	_	—	—	5	6	6.5	6.5	7			

## 2 Color Indication Style Solid State Switch/Rail Mounting D-F79W/D-F7PW/D-J79W

#### Grommet

The suitable operating point can be indicated with a green light. (Red→Green←Red)



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ3, 5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD□XW	Plate mounted(P), ø10, ø16, ø20, ø25, ø32, Housing mounted(B), ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø25, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

#### Specifications

PLC: Programmable Logic Controller

D-F7 W/D-J7	9W						
Auto switch model number	D-F79W	D-J79W					
Wiring	3 w	ire	2 wire				
Output	NPN	PNP					
Application	IC circuit/R	24V DC Relay/PLC					
Power voltage	5/12/24V DC	—					
Current consumption	≤ 10						
Load voltage	≤ 28V DC	_	24V DC (10 to 28V DC)				
Load current	≤ 40mA	≤ 80mA	5 to 40mA				
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA load current)	≤ 0.8V	≤ 4V				
Current leakage	≤ 100μA a	≤ 0.8mA at 24V DC					
la dia stan Balat	Operating point: Red light emitting diode						
indicator light	Suitable operating point: Green light emitting diode						

 Lead wire ——Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

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#### **Operation Range (***t* **Dimension)**

Actuator aa	rico	Bore size															
Actuator se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDV.	J3, 5	-	5	-		5	-	-	—	-	-	-	-	-	—	-	-
CDQ2		-	—	5.5	-	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
	В		—			4	25	3.5	4								
	Ρ		3		_	2.5 3.5	3.5	3.5	2.5	_		_			_	_	_
CDY1S, CY	1L	3	3	-	4	-	3	3	3	3.5	-	—	—	-	—	—	—
RSDQ		-	—	—		-	5.5	-	6	6	6	-		—	_	—	—
MDU		—	—	—	_	-	—	6.5	7	6.5	6.5	6.5	—	-	—	-	—
CE1		-	_	5.5		-	5.5	-	6	6	6	6.5	_	-	-	-	—
MK, MK2		_	_	_	_	_	5.5	5	6	6	6	6.5	_	-	-	-	_
СХТ		-	—	—	_	-	_	-	6	6	—	—	-	-	-	-	-

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

### RB J D -X 20-

Technical Data

5.3-44

(mm)



**Internal Circuit** 



D-J79W



#### **Indicator light/Operation**



## 2 Color Indication Style Solid State Switch/Rail Mounting D-F7NWV/D-F7BWV

Grommet Electrical entry: Perpendicular

The suitable operating point can be indicated with a green light. (Red $\rightarrow$ Green $\leftarrow$ Red)



#### **Applicable Actuator Series**

Bore size (mm)					
ø10, ø16					
ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160					
Plate mounted(P), ø10, ø16, ø20, ø25, ø32, Housing mounted(B), ø16, ø20, ø25, ø32					
ø6, ø10, ø15, ø20, ø25, ø32, ø40					
ø20, ø25, ø32, ø40, ø50					
ø25, ø32, ø40, ø50, ø63					
ø12, ø20, ø32, ø40, ø50, ø63					
ø20, ø25, ø32, ø40, ø50, ø63					
ø32, ø40					

#### **Specifications**

PLC: Programmable Logic Controller

(mm)

D-F7⊟WV (Wi	th indicator light)						
Auto switch model number	D-F7NWV	D-F7BWV					
Wiring	3 wire	2 wire					
Output	NPN						
Application	IC circuit/Relay/PLC	24V DC Relay/PLC					
Power voltage	5/12/24V DC (4.5 to 28V DC)						
Current consumption	≤ 10mA						
Load voltage	≤ 28V DC	24V DC (10 to 28V DC)					
Load current	≤ 40mA	5 to 40mA					
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA load current)	≤ 4V					
Current leakage	100 $\mu$ A or less at 24V DC	0.8mA or less at 24V DC					
Indiantar light	Operating point: Red light emitting diode						
indicator light							

Suitable operating point: Green light emitting diode

 Lead wire —— Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



#### Operation Range ( *l* Dimension)

Actuator co	ricc								Bore	size							
Actualor series		6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDV	J3, 5	_	5	—	—	5	—	—	—	—	—	_	_	—	_	—	_
CDQ2		-	-	5.5	-	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
	В		-			4	4 25	3.5	4								
	Ρ	_	3		-	2.5	3.5	3.5	2.5		-	_	_		-		_
CDY1S, CY	′1L	3	3	—	4		3	3	3	3.5	—	_	—	—	_	—	_
RSDQ		-	-	—	-	-	5.5	—	6	6	6	—	-	—	-	—	_
MDU		-	-	_	_		-	6.5	7	6.5	6.5	6.5	—	—	_	_	_
CE1			-	5.5	-	-	5.5	—	6	6	6	6.5	-	—	-	—	-
MK, MK2		_	-	—	-		5.5	5	6	6	6	6.5	—	—	-	—	—
СХТ		_	-	—	-	-	-	-	6	6	-	_	-	-	-	_	_

#### Internal Circuit

#### (): If not applicable for IEC Standard



## 2 Color Indication Style Solid State Switch/Tie-rod Mounting D-F59W/D-F5PW/D-J59W

#### Grommet

The suitable operating point can be indicated with a green light. (Red→Green←Red)



#### Internal Circuit (): If not applicable for IEC Standard







#### Indicator light/Operation



#### **Applicable Actuator Series**

Series	Bore size (mm)						
CDA1, CDBA1, CDV3, CDVS1,	a40 a50 a63 a80 a100						
CDLA, CNA	±40, ±50, ±03, ±00, ±100						
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160						
CDS1	ø125, ø140, ø160, ø180, ø200						
CE2	ø40, ø50, ø63, ø80, ø100						
MDB	ø32, ø40, ø63, ø80, ø100						

PLC: Programmable Logic Controller

#### **Specifications**

		0	0						
D-F5□W/D-J5	9W (With indicator	light)							
Auto switch model number	D-F59W	D-F5PW	D-J59W						
Wiring	3 wi	re	2 wire						
Output	NPN								
Application	IC circuit/R	24V DC Relay/PLC							
Power voltage	5/12/24V DC (4	—							
Current consumption	10	mA							
Load voltage	≤ 28V DC	—	24V DC (10 to 28V DC)						
Load current	≤ 40mA	≤ 80mA	5 to 40mA						
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA load current)	≤ 0.8V	≤ 4V						
Current leakage	≤ 100μA a	≤ 0.8mA at 24V DC							
Indiantar light	Operating point: Re	ed light emitting diode							
indicator light	Suitable operating point: Green light emitting diode								

Suitable operating point: Green light emitting diode

•Lead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions





Technical Data

#### **Operation Range (***t* **Dimension)**

Actuator sorias	Bore size										
Actuator series	32	40	50	63	80	100	125	140	160	180	200
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	-	4	4	4.5	4.5	4.5	_	_	-	_	_
CDL1	-	4	4	4.5	4.5	4.5	5	5	5.5	-	-
CDS1	_	-	—	-	—	—	5	5	5.5	6	6
CE2	_	4	4	4.5	4.5	4.5	_	_	_	_	-
MDB	3.5	4	4	4.5	4.5	4.5	—	-	-	-	-

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

(mm)

## 2 Color Indication Style Solid State Switch/Direct Mounting D-Y7NW(V)/D-Y7PW(V)/D-Y7BW(V)

#### Grommet

The suitable operating point can be indicated with a green light. (Red→Green←Red)



### Internal Circuit (): If not applicable for IEC Standard



#### D-Y7PW(V)



#### D-Y7BW(V)



#### Indicator light/Operation



#### **Applicable Actuator Series**

Series	Bore size (mm)
CXS	ø6, ø10, ø15, ø20, ø25, ø32
MGQ, MVGQ	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
MGP	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
MY1B	ø25, ø32, ø40, ø50, ø63, ø80, ø100
MY1C	ø25, ø32, ø40, ø50, ø63
MY1H	ø25, ø32, ø40
MY1M	ø25, ø32, ø40, ø50, ø63
RSH	ø20, ø32, ø50, ø63, ø80

#### Specifications PLC: Programmable Logic Controller D-Y7 W/D-Y7 WV (With indicator light) D-Y7NWV D-Y7NW D-Y7PW D-Y7PWV Auto switch model number D-Y7BW D-Y7BWV In-line Perpendicular In-line In-line Electrical entry Perpendicular Perpendicular Wiring 3 wire 2 wire NPN PNP Output Application IC circuit/Relay/PLC 24V DC Relay/PLC Power voltage 5/12/24V DC (4.5 to 28V DC) Current consumption 10mA or less Load voltage 28V DC or less 24V DC (10 to 28V DC) Load current 40mA or less 5 to 40mA 80mA or less ≤1.5V ≤ 4V Internal voltage drop ≤ 0.8V (≤ 0.8V at 10mA load current) Current leakage 0.8mA or less at 24V DC $100 \mu A$ or less at 24V DC Operating point: Red light emitting diode Indicator light Suitable operating point: Green light emitting diode

•Lead wire —— Oilproof vinyl heavy insulation cable, ø3.4, 0.15mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 2 cores (Brown, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.





#### Operation Range ( *t* Dimension)

Actuator carico	Bore size												
Actuator series	6	10	12	15	16	20	25	32	40	50	63	80	100
MGQ, MVGQ	-	-	5	-	6	6	6.5	8.5	8.5	9	10	10	11.5
CXS	3	3	-	3.5	-	3.5	4	4.5	-	-	-	-	-
MGP	-	-	5.5	—	7.5	7.5	7	6.5	6	7	8	9.5	10
MY1B	-	-	-	—	-	-	6	9	10	3.5	3.5	3.5	3.5
MY1C, MY1M	-	-	-	—	—	—	5	5	5	5.5	5.5	—	-
MY1H	-	-	-	—	-	-	6	9	10	-	-	_	-
RSH	-	-	-	—	—	7.5	-	5	-	6.5	7.5	10	-
CY1R	-	-	-	-	-	-	7	6	6	7	6	—	-
CY1H	-	6	_	5	_	5	5	6	_	_	_	_	-
ML2B	-	-	-	-	_	-	6	6	6	-	_	_	-
MGF	-	-	-	-	—	-	-	—	9	-	5	—	7.5

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

5.3-48

(mm)

RB

J

## 2 Color Indication Style with Diagnostic Output Solid State Switch/Band Mounting **D-H7LF** (Latching Style)

#### Grommet

The output signal can be detected in an unsteady detecting area.



#### **Applicable Actuator Series**

CDJ2 Ø6, Ø10, Ø16
CDVJ3, 5 Ø10, Ø16
<b>CDLJ2</b> ø16
CDM2, CDBM2, CDVM3, 5, CDLM2, CDLG1, REC ø20, ø25, ø32, ø40
<b>CDG1, MGG</b> ø20, ø25, ø32, ø40, ø50, ø63
<b>RSDG</b> ø40, ø50
MGC ø20, ø25, ø32, ø40, ø50
RHC, MLGC ø20, ø25, ø32, ø40

#### Specifications

PLC: Programmable Logic Controller

D-H7LF (With indi	icator light)
Auto switch model number	D-H7LF
Wiring	4 wire
Output	NPN
Diagnostic output	Latching operation
Application	24V DC Relay/PLC
Power voltage	24V DC (20 to 26V DC)
Current consumption	≤ 20mA
Load voltage	≤ 26V DC
Load current	≤ 40mA
Internal voltage drop	≤ 0.8V
Current leakage	≤ 100µA at 24V DC
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode Orange color indicator lights on when diagnostic output is ON.

#### Internal Circuit





#### Dimensions



#### ●Lead wire ——Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 4 cores (Brown, Black, Orange, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Diagnostic Output Operation**

The diagnostic signal is output when detecting position remains within unsteady area (where indicator light is Red.) for more than 0.5 sec. This signal keeps outputting even after normal output goes to OFF. The diagnostic output becomes OFF when detecting position remains within the most suitable operating range (where indicator light is Green.) for more than 0.5 sec.



#### **Operation Range (** *l* **Dimension)**

Astustan astisa	Bore size										
Actuator series	6	10	15	16	20	25	32	40	50	63	
CDJ2	4	5	-	5	-	-	-	-	-	-	
CDVJ3, 5	-	5	-	5	-	-	-	-	-	-	
CDLJ2	-	—	-	5	-	-	-	-	—	—	
CDM2, CDBM2, CDVM3, CDVM5, CDLM2, CDLG1, REC	_	_	_	_	5	5	5.5	6	_	_	
CDG1, MGG	-	-	-	-	5	5	5.5	6	7	7.5	
RSDG	-	—	-	-	-	-	-	6	7	-	
MGC	-	_	—	-	5	5	5.5	6	7	-	
RHC, MLGC	-	-	-	-	4	4	4.5	5	-	-	

(mm)

### 2 Color Indication Style with Diagnostic Output Solid State Switch/Band Mounting D-H7NF

#### Grommet

The output signal can be detected in an unsteady detecting area.



#### **Internal Circuit**

#### ): If not applicable for IEC Standard



#### Dimensions





#### **Applicable Actuator Series**

Series	Bore size (mm)						
CDJ2	ø6, ø10, ø16						
CDVJ3, 5	ø10, ø16						
CDLJ2	ø16						
CDM2, CDBM, CDVM3, 5, CDLM2, CDLG1, REC	ø20, ø25, ø32, ø40						
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63						
RSDG	ø40, ø50						
MGC	ø20, ø25, ø32, ø40, ø50						
RHC, MLGC	ø20, ø25, ø32, ø40						

#### **Specifications**

PLC: Programmable Logic Controller

D-H7NF (With indicator light)									
Auto switch model number	D-H7NF								
Wiring	4 wire								
Output	NPN								
Diagnostic output	Normal operation								
Application	IC circuit/Relay/PLC								
Power voltage	5/12/24V DC (4.5 to 28V DC)								
Current consumption	≤ 10mA								
Load voltage	≤ 28V DC								
Load current	≤ 40mA								
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA)								
Current leakage	≤ 100µA at 24V DC								
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode								

•Lead wire — Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 4 cores (Brown, Black, Orange, Blue), 0.5m Note 1) Refer to common specifications on tp.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Diagnostic Output Operation**

The diagnostic output is detected when detecting position remains at unsteady area only, not available at the most suitable operating area, thus diagnostic signal can be output only when the detecting position is far from the suitable position for normal operation.



#### **Operation Range (***t* **Dimension)**

									· · · ·		
	Bore size										
6	10	15	16	20	25	32	40	50	63		
4	5	-	5	-	-	-	-	-	-		
-	5	-	5	-	-	-	-	-	-		
-	-	-	5	-	-	-	—	-	-		
				E	E		6				
			_	5	5	5.5	0	_	_		
-	—	-	-	5	5	5.5	6	7	7.5		
-	—	—	—	-	—	—	6	7	—		
-	_	_	-	5	5	5.5	6	7	-		
_	_	_	-	4	4	4.5	5	_	-		
	6 4 - - - - - - - -	6         10           4         5           -         5           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -           -         -	6         10         15           4         5         -           -         5         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -           -         -         -	6         10         15         16           4         5         -         5           -         5         -         5           -         -         -         5           -         -         -         5           -         -         -         5           -         -         -         5           -         -         -         -           -         -         -         -           -         -         -         -           -         -         -         -           -         -         -         -           -         -         -         -           -         -         -         -           -         -         -         -           -         -         -         -      /td>         -         -         -         -	Bore           6         10         15         16         20           4         5         -         5         -           -         5         -         5         -           -         5         -         5         -           -         5         -         5         -           -         -         5         5         -           -         -         5         5         -           -         -         5         -         5           -         -         -         5         -           -         -         -         5         -           -         -         -         5         -           -         -         -         -         5           -         -         -         -         5           -         -         -         -         5           -         -         -         -         5	Bore size           6         10         15         16         20         25           4         5         -         5         -         -           -         5         -         5         -         -           -         5         -         5         -         -           -         5         -         5         -         -           -         -         5         5         -         -           -         -         -         5         5         -           -         -         -         5         5         -           -         -         -         -         5         5           -         -         -         -         5         5           -         -         -         -         5         5           -         -         -         5         5         5           -         -         -         5         5         5	Image: Normal Symbol	6         10         15         16         20         25         32         40           4         5         -         5         -         -         -         -           -         5         -         5         -         -         -         -           -         5         -         5         -         -         -         -           -         5         -         5         -         -         -         -           -         -         5         5         5         -         -         -           -         -         -         5         5         5         5         6           -         -         -         5         5         5         6           -         -         -         5         5         5         6           -         -         -         5         5         5         6           -         -         -         5         5         5         6           -         -         -         4         4         4         5	Bore size           6         10         15         16         20         25         32         40         50           4         5         -         5         -         -         -         -         -         -           5         -         5         -         -         -         -         -         -         -           -         5         -         5         -         -         -         -         -         -           -         -         5         5         5         5         6         -           -         -         -         5         5         5         5         6         7           -         -         -         -         5         5         5         6         7           -         -         -         -         5         5         55         6         7           -         -         -         5         5         5         6         7           -         -         -         5         5         5         6         7           -         -         - <th< th=""></th<>		

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

(mm)

## 2 Color Indication Style with Diagnostic Output Solid State Switch/Band Mounting **D-G59F**

#### Grommet

The output signal can be detected in an unsteady detecting area.



#### Internal Circuit

(): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series	Bore size (mm)							
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100							
CDA1, CDBA1, CDV3, CDVS1, CDLA, CDL1, CNA	ø40 <sup>*</sup> , ø50 <sup>*</sup> , ø63, ø80, ø100							
MGC	ø20, ø25, ø32, ø40, ø50							
RHC, MLGC	ø20, ø25, ø32, ø40							
CE2	ø40, ø50, ø63, ø80, ø100							

\* Can not be used for lube type.

#### Specifications

PLC: Programmable Logic Controller

(mm)

D-G59F (With indicator light)										
Auto switch model number	D-G59F									
Wiring	4 wire									
Output	NPN									
Application	IC circuit/Relay/PLC									
Diagnostic output	Normal operation									
Current consumption	≤ 10mA									
Load voltage	≤ 28V DC									
Load current	≤ 40mA									
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA)									
Current leakage	≤ 100µA at 24V DC									
Indicator light	Operating point: Red light emitting diode									
	Suitable operating point: Green light emitting diode									

 Lead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.2mm<sup>2</sup>, 4 cores (Brown, Black, Orange, Blue), 0.5m Note 1) Refer to common specifications on the p.5.3-5. Note 2) Refer to the p.5.3-5 for lead wire length.

#### Diagnostic Output Operation

The diagnostic output is detected when detecting position remains at unsteady area only, not available at the most suitable operating area, that is to say, diagnostic signal can be output only when the detecting position is far from the suitable position for normal operation.



#### Dimensions





#### **Operation Range (***t* **Dimension)**

								. ,					
		Bore size											
Actuator series	20	25	32	40	50	63	80	100					
CDG1, MGG	5	5	5.5	6	7	7.5	7.5	8					
CDA1, CDBA1, CDV3,	I	-	_	6	7	75	75	8					
CDVS1, CDLA, CDL1, CNA				0	'	1.5	1.5						
MGC	5	5	5.5	6	7	-	-	-					
RHC, MLGC	5	5	5.5	6	-	-	-	-					
CE2	-	-	-	6	7	7.5	7.5	8					

### 2 Color Indication Style with Diagnostic Output Solid State Switch/Rail Mounting **D-F7LF** (Latching Style)

#### Grommet

The output signal can be detected in an unsteady detecting area.



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ3, 5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD□XW	Housing mounted(B), ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø25, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

#### **Specifications**

Indicator light

PLC: Programmable Logic Controller

D-F7LF (With indicator light)										
Auto switch model number	D-F7LF									
Wiring	4 wire									
Output	NPN									
Diagnostic output	Latching operation									
Application	24V DC Relay/PLC									
Power voltage	24V DC (20 to 26V DC)									
Current consumption	≤ 20mA									
Load voltage	≤ 26V DC									
Load current	≤ 40mA									
Internal voltage drop	≤ 0.8V									
Current leakage	≤ 100µA at 24V DC									
	Operating point: Red light emitting diode									

#### **Internal Circuit**

#### ): If not applicable for IEC Standard (



#### Suitable operating point: Green light emitting diode Orange color indicator lights on when diagnostic output is ON.

- Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 4 cores (Brown,Black, Orange, Blue), 0.5m Lead wire Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length

#### **Diagnostic Output Operation**

The diagnostic signal is output when detecting position remains within unsteady area (where indicator light is Red.) for more than 0.5 sec. This signal keeps outputting even after normal output goes to OFF. The diagnostic output becomes OFF when detecting position remains within the most suitable operating range (where indicator light is Green.) for more than 0.5 sec



#### Dimensions



#### **Operation Range (** *l* **Dimension)**

Operatio	Deration Range ( <i>l</i> Dimension)														(mm)	
Actuator		Bore size														
series	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDVJ3, CDVJ5	-	6.5	-	—	5.5	—	_	—	—	-	-	—	-	—	—	—
CDQ2	-	-	6	—	7	7	7	8	7	8	8.5	8	9	10.5	11	10.5
CD XW B	-	-	-	-	4.5	4.5	5	4.5	-	-	Ι	-	-	-	-	-
CDY1S, CY1L	4.5	4.5		4.5	—	4.5	4.5	4.5	4.5	-	-	-	-	—		-
RSDQ	-	-	-	-	-	7	_	8	7	7	-	-	-	-	-	-
MDU	-	-	-	—	-	-	7	7.5	7	7	7	-	-	-	-	-
СХТ	-	-	-	-	-	—	—	6	6	-	-	-	-	-	-	-
CE1	-	-	6	—	—	7	7	8	7	8	8.5	-	-	-	-	-
MK, MK2	-	-	-	-	-	7	7	8	7	8	8.5	-	-	-	-	_

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

Technical Data

## 2 Color Indication Style with Diagnostic Output Solid State Switch/Rail Mounting **D-F79F**

#### Grommet

The output signal can be detected in an unsteady detecting area.



### Internal Circuit ( ): If not applicable for IEC Standard



#### Dimensions



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ3, 5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD	Plate mounted(P), ø10, ø16, ø20, ø25, ø32 Housing mounted, ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63

#### Specifications

PLC: Programmable Logic Controller

D-F79F (With indicator light)										
Auto switch model number	D-F79F									
Wiring	4 wire									
Output	NPN									
Diagnostic output	Normal operation									
Application	IC circuit/Relay/PLC									
Power voltage	5/12/24V DC (4.5 to 28V DC)									
Current consumption	≤ 10mA									
Load voltage	≤ 28V DC									
Load current	≤ 40mA									
Internal voltage drop	≤ 1.5V (0.8V at 10mA)									
Current leakage	≤ 100μ A at 24V DC									
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode									

•Lead wire —— Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 4 cores (Brown, Black, Orange, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Diagnostic Output Operation**

The diagnostic output is detected when detecting position remains at unsteady area only, not available at the most suitable operating area, that is to say, diagnostic signal can be output only when the detecting position is far from the suitable position for normal operation.



(mm)

#### **Operation Range (** *l* **Dimension)**

Actuator		Bore size														
series	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDVJ3, CDVJ5	-	6.5	-	-	5.5	-	-	-	Ι	-	-	-	-	-	-	-
CDQ2	-	-	6	-	7	7	7	8	7	8	8.5	8	9	10.5	11	10.5
		—			4.5	4.5	5	4.5								
	_	4.5	_	_	3.5	4.5	5	3.5			_		_	_	_	
CDY1S, CY1L	4.5	4.5	-	4.5	-	4.5	4.5	4.5	4.5	-	-	-	-	-	-	-
RSDQ	-	-	-	-	-	7	-	8	7	7	-	-		-	-	-
MDU	-	-	-	-	-	-	7	7.5	7	7	7	-	—	-	—	-
СХТ	-	-	-	-	-	-	-	6	6	-	-	-	-	-	—	-
CE1	-	-	6	-	-	7	-	8	7	8	8.5	-	—	-	—	-
MK, MK2	-	-	-	-	-	7	7	8	7	8	8.5	-	-	-	-	—
Niete) Aueroan				40.000			ما ما .	-		ie /T	-		200/			

## 2 Color Indication Style with Diagnostic Output Solid State Switch/Tie-rod Mounting **D-F59F**

#### Grommet

The output signal can be detected in an unsteady detecting area.



#### **Internal Circuit**



#### **Applicable Actuator Series**

Series	Bore size (mm)							
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	ø40, ø50, ø63, ø80, ø100							
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160							
CDS1	ø125, ø140, ø160, ø180, ø200							
CE2	ø40, ø50, ø63, ø80, ø100							
MDB	ø32, ø40, ø50, ø63, ø80, ø100							

#### **Specifications**

PLC: Programmable Logic Controller

D-F59F	
Auto switch model number	D-F59F
Wiring	4 wire
Output	NPN
Diagnostic output	Normal operation
Application	IC circuit/Relay/PLC
Power voltage	5/12/24V DC (4.5 to 28V DC)
Current consumption	≤ 10mA
Load voltage	≤ 28V DC
Load current	≤ 40mA
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA)
Current leakage	≤ 100µA at 24V DC
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode

•Lead wire — Oilproof vinyl heavy insulation cable, ø4, 0.2mm<sup>2</sup>, 4 cores (Brown, Black, Orange, Blue), 0.5m Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Diagnostic Output Operation**

The diagnostic output is detected when detecting position remains at unsteady area only, not available at the most suitable operating area, that is to say, diagnostic signal can be output only when the detecting position is far from the suitable position for normal operation.



#### Dimensions





#### **Operation Range (***t* **Dimension)**

Operation Range ( <sup>e</sup> Dimension)														
		Bore size												
Actuator series	32	40	50	63	80	100	125	140	160	180	200			
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	_	5.5	5	5.5	5.5	5.5	-	_	_	_	_			
CDL1	—	5.5	5	5.5	5.5	5.5	5.5	6	6.5	_	-			
CDS1	—	-	-	-	-	-	5.5	6	6.5	7	7			
CE2	—	5.5	5	5.5	5.5	5.5	-	—	-	-	-			
MDB	5	5.5	5.5	6	6	6	-	_	-	-	-			
NI-t-> A	1.4		the set of the	a a bura		(Talaw								

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

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Technical Data

## Water Resistant 2 Color Indication Style Solid State Switch/Band Mounting **D-H7BAL**

#### Grommet

## Water (coolant) resistant performance



#### ▲ Caution

#### Precautions

Consult SMC if using coolant liquid other than water based solution.

#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2	ø6, ø10, ø16
CDVJ3, 5	ø10, ø16
CDLJ2	ø16
CDM2, CDBM2, CDVM3, 5, CDLM2, CDLG1, REC	ø20, ø25, ø32, ø40
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63
RSDG	ø40, ø50
MGC	ø20, ø25, ø32, ø40, ø50
MLGC	ø20, ø25, ø32, ø40

#### Specifications

#### PLC: Programmable Logic Controller

(mm)

#### D-H7BAL (With indicator light)

Auto switch model number	D-H7BAL
Wiring	2 wire
Output	_
Application	24V DC Relay/PLC
Power voltage	_
Current consumption	_
Load voltage	24V DC (10 to 28V DC)
Load current	≤ 5 to 40mA
Internal voltage drop	≤ 4V
Current leakage	≤ 0.8mA at 24V DC
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode

#### Internal Circuit

#### (): If not applicable for IEC Standard



•Lead wire —— Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 2 cores (Brown, Blue), 3m (Standard) Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Dimensions**





#### **Operation Range (** *l* **Dimension)**

		Bore size												
Actuator series	6	10	15	16	20	25	32	40	50	63				
CDJ2	4	5	—	5	-	-	-	-	-	-				
CDVJ3, 5	-	5	—	5	-	-	-	-	-	-				
CDLJ2	-	-	—	5	-	-	-	-	-	-				
CDM2, CDBM2, CDVM3, 5 CDLM2, CDLG1, REC	_	-	_	_	5	5	5.5	6	_	-				
CDG1, MGG	-	-	-	-	5	5	5.5	6	7	7.5				
RSDG	-	-	—	—	-	-	-	6	7	-				
MGC	-	-	—	—	5	5	5.5	6	7	-				
RHC, MLGC	_	_	_	_	5	5	5.5	6	_	_				

## Water Resistant 2 Color Indication Style Solid State Switch/Band Mounting **D-G5BAL**

#### Grommet

#### Water (coolant) resistant performance



▲ Caution Precautions

Consult SMC if using coolant liquid other than water based solution.

#### **Applicable Actuator Series**

Series	Bore size (mm)
CDG1, MGG	ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
CDA1, CDBA1, CDV3, CDVS1, CDLA, CDL1, CNA	ø40 <sup>*</sup> , ø50 <sup>*</sup> , ø63, ø80, ø100
MGC	ø20, ø25, ø32, ø40, ø50
RHC, MLGC, REC	ø20, ø25, ø32, ø40
CE2	ø40, ø50, ø63, ø80, ø100

\* Can not be used for lube type.

#### Specifications

PLC: Programmable Logic Controller

D-G5BAL (With indicator light)										
Auto switch model number	D-G5BAL									
Wiring	2 wire									
Output	_									
Application	24V DC Relay/PLC									
Power voltage	_									
Current consumption	_									
Load voltage	24V DC (10 to 28V DC)									
Load current	≤ 5 to 40mA									
Internal voltage drop	≤ 4V									
Current leakage	≤ 0.8mA at 24V DC									
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode									

### Internal Circuit (): If not applicable for IEC Standard



•Lead wire — Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 3m (Standard) Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions





#### **Operation Range (***t* **Dimension)**

	-											
A stustor porios	Bore size											
Actuator series	20	25	32	40	50	63	80	100				
CDG1, MGG	5	5	5.5	6	7	7.5	7.5	8				
CDA1, CDBA1, CDV3, CDVS1, CDLA, CDL1, CNA	-	-	-	6	7	7.5	7.5	8				
MGC	5	5	5.5	6	7	-	—	—				
RHC, MLGC, REC	5	5	5.5	6	—	-	-	-				
CE2	-	-	-	6	7	7.5	7.5	8				

Note) Average value at normal temperature including hysteresis.(Tolerance ±30%)

Technical Data

(mm)

## Water Resistant 2 Color Indication Style Solid State Switch/Rail Mounting **D-F7BAL**

#### Grommet

#### Water (coolant) resistant performance



#### **▲** Caution

Precautions

Consult SMC if using coolant liquid other than water based solution.

#### **Applicable Actuator Series**

Series	Bore size (mm)				
CDJ2, CDVJ3, 5	ø10, ø16				
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160				
CD□XW	Plate mounted(P), ø10, ø16, ø20, ø25, ø32, Husuing mounted(B), ø16, ø20, ø25, ø32				
CDY1S, CY1L Ø6, Ø10, Ø15, Ø20, Ø25, Ø32, Ø40					
RSDQ	ø20, ø25, ø32, ø40, ø50				
MDU	ø25, ø32, ø40, ø50, ø63				
CE1	ø12, ø20, ø32, ø40, ø50, ø63				
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63				
СХТ	ø32, ø40				

Specifications	PLC: Programmable Logic Controller							
D-F7BAL (With indicator light)								
Auto switch model number	D-F7BAL							
Wiring	2 wire							
Output	_							
Application	24V DC Relay/PLC							
Power voltage	_							
Current consumption	_							
Load voltage	24V DC (10 to 28V DC)							
Load current	≤ 5 to 40mA							
Internal voltage drop	≤ 4V							
Current leakage	≤ 0.8mA at 24V DC							
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode							

Dead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 3m (Standard)
 Note 1) Refer to common specifications on p.5.3-5.
 Note 2) Refer to p.5.3-5 for lead wire length.

#### Internal Circuit (): If not applicable for IEC Standard



#### Dimensions



(mm)

#### **Operation Range (***t***Dimension)**

Actuator co	ricc								Bore	size							
Actuator se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDV.	J3, 5	—	5	—	_	5	-	-	-	-	—	-	—	-	_	—	—
CDQ2		_	-	5.5	-	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
	В		-			4	25	3.5	4								
	Ρ		3		_	2.5	3.5	3.5	2.5		_		_				_
CDY1S, CY	'1L	3	3	—	4	-	3	3	3	3.5	—	—	—	-	_	—	—
RSDQ		_	—	_	_	-	5.5	-	6	6	6	-	_	-	-	-	-
MDU		—	-	—		-	-	6.5	7	6.5	6.5	6.5	—	-	_	—	—
CE1		—	-	5.5	_	-	5.5	-	6	6	6	6.5	—	-	_	-	-
MK, MK2		_	_	_	_	-	5.5	5	6	6	6	6.5	_	-	_	—	_
СХТ		_	_	_	_	-	-	-	6	6	-	-	-	-	-	-	_

### Water Resistant 2 Color Indication Style Solid State Switch/Tie-rod Mounting D-F5BAL

#### Grommet

#### Water (coolant) resistant performance



#### **∆**Caution

#### **Precautions**

Consult SMC if using coolant liquid other than water based solution.

#### **Internal Circuit**

(): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series		Bore size (mm)					
CDA1, CDBA1, CDV3, CDV	/S1,	ø40, ø50, ø63, ø80, ø100					
CDLA, CNA							
CDL1		ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160					
CDS1		ø125, ø140, ø160, ø180, ø200					
CE2		ø40, ø50, ø63, ø80, ø100					
MDB		ø32, ø40, ø63, ø80, ø100					
Specifications		PLC: Programmable Logic Controller					
D-F5BAL (With indica	tor light						
Auto switch model number		D-F5BAL					
Wiring		2 wire					
Output		-					
Application		24V DC Relay/PLC					
Power voltage		_					
Current consumption		_					
Load voltage		24V DC (10 to 28V DC)					
Load current		≤ 5 to 40mA					
Internal voltage drop		≤ 4V					
Current leakage		≤ 0.8mA at 24V DC					
Indicator light	Oper Suita	rating point: Red light emitting diode able operating point: Green light emitting diode					

- Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 2 cores (Brown, Blue), 3m (Standard) Lead wire Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



#### **Operation Range (***t* **Dimension)**

Operation Range ( <i>l</i> Dimension) (mm)													
A stusten series	Bore size												
Actuator series	32	40	50	63	80	100	125	140	160	180	200		
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	-	4	4	4.5	4.5	4.5	-	_	_	_	_		
CDL1	-	4	4	4.5	4.5	4.5	5	5	5.5	—	—		
CDS1	-	-	-	—	—	—	5	5	5.5	6	6		
CE2	-	4	4	4.5	4.5	4.5	—	-	—	—	—		
MDB	3.5	4	4	4.5	4.5	4.5	-	-	—	—	—		

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

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Technical

Data

## Solid State Switch with Timer/Band Mounting **D-G5NTL**

#### Grommet

## With built-in OFF-delay timer (200ms)



#### Internal Circuit

(): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series		Bore size (mm)					
CDM2, CDBM2, CDVM3, 5, CDL	M2, CDLG1	ø20, ø25, ø32, ø40					
CDG1, MGG		ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100					
CDA1, CDBA1, CDV3, CDVS1, CDLA	, CDL1, CNA	ø40, ø50, ø63, ø80, ø100					
MGC		ø20, ø25, ø32, ø40, ø50					
RHC, MLGC, REC		ø20, ø25, ø32, ø40					
CE2		ø40, ø50, ø63, ø80, ø100					
Specifications		PLC: Programmable Logic Controller					
D-G5NTL (With indicator	light)						
Auto switch model number		D-G5NTL					
Wiring	3 wire						
Output	NPN						
Output operation		Off-delay					
Operation time		≤ 1ms					
Off-delay time		200±50ms					
Application		IC circuit/Relay/PLC					
Power voltage		5/12/24V DC (4.5 to 28V DC)					
Current consumption		≤ 10mA					
Load voltage	≤ 28V DC						
Load current	≤ 80mA						
Internal voltage drop	≤ 2V (≤ 0.8V at 10mA)						
Current leakage		≤ 100μA at 24V DC					
Indicator light	(	ON: When red light emitting diode					

• Lead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 3m (Standard) Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length.

#### **Timer Operation**





Actuator series	Bore size									
Actuator series	20	25	32	40	50	63	80	100		
CDM2, CDBM2, CDVM3, 5, CDLM2, CDLG1		4	4.5	5	—	—	—	-		
CDG1, MGG	4	4	4.5	5	6	6.5	6.5	7		
CDA1, CDBA1, CDV3, CDVS1, CDLA, CDL1, CNA		-	-	5	6	6.5	6.5	7		
MGC	4	4	4.5	5	6	-	-	—		
RHC, MLGC, REC		4	4.5	5	-	-	—	—		
CE2	_	-	-	5	6	6.5	6.5	7		

(mm)

## Solid State Switch with Timer/Rail Mounting **D-F7NTL**

#### Grommet

With built-in OFF-delay timer (200ms)



#### **Internal Circuit**



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDJ2, CDVJ3, 5	ø10, ø16
CDQ2	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CD□XW	Plate mounted(P), ø10, ø16, ø20, ø25, ø32, Housing mounted(B), ø16, ø20, ø25, ø32
CDY1S, CY1L	ø6, ø10, ø15, ø20, ø25, ø32, ø40
RSDQ	ø20, ø25, ø32, ø40, ø50
MDU	ø25, ø32, ø40, ø50, ø63
CE1	ø12, ø20, ø32, ø40, ø50, ø63
MK, MK2	ø20, ø25, ø32, ø40, ø50, ø63
СХТ	ø32, ø40

#### Specifications

PLC: Programmable Logic Controller

D-F7NTL (With indicator	light)
Auto switch model number	D-F7NTL
Wiring	3 wire
Output	NPN
Output operation	Off-delay
Operation time	≤ 1ms
Off-delay time	200±50ms
Application	IC circuit/Relay/PLC
Power voltage	5/12/24V DC (4.5 to 28V DC)
Current consumption	≤ 10mA
Load voltage	≤ 28V DC
Load current	≤ 80mA
Internal voltage drop	≤ 1.5V (≤0.8V at 10mA)
Current leakage	≤ 100µ A at 24V DC
Indicator light	ON: When red light emitting diode

- Oilproof vinyl heavy insulation cable, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 3m (Standard) Lead wire -Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length

#### **Timer Operation**

Detection of immediate positioning for high-speed cylinder Detecting point dispersion occurs due to response time of PLC (sequencer); e. g. scanning. Ex.) Cylinder speed-1000 mm/sec. Sequencer response time-0.1 sec. Detecting point despersion-Within



Take PLC response time into consideration when using.



Dimensions



#### **Operation Range (** *l* **Dimension)**

Speration Range ( <i>i</i> Dimension) (mm)																	
	riaa	Bore size															
Actuator se	nes	6	10	12	15	16	20	25	32	40	50	63	80	100	125	140	160
CDJ2, CDV.	J3, 5	—	5	Ι		5	—	—	—	-		—		-	_	Ι	_
CDQ2		—	_	5.5	_	6	5.5	5	6	6	6	6.5	6.5	7	9	9	8.5
	В		_			4	0.5	3.5	4								
	Ρ		3			2.5	3.5	3.5	2.5								
CDY1S, CY	1L	3	3	—	4	-	3	3	3	3.5	—	-	_	-	-	-	_
RSDQ		—	_	Ι	-	—	5.5	—	6	6	6	—	_	-	—	Ι	-
MDU		—	-			-	—	6.5	7	6.5	6.5	6.5	-	-	—	Ι	-
CE1		_	-	5.5	_	-	5.5	_	6	6	6	6.5	_	-	_	Ι	-
MK, MK2		_	_	-	_	-	5.5	5	6	6	6	6.5	_	-	_	-	_
СХТ		—	_	—	—	_	—	—	6	6	—	—	—	—	—	-	_

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

Technical Data

## Solid State Switch with Timer/Tie-rod Mounting **D-F5NTL**

#### Grommet

## With built-in OFF-delay timer (200ms)



#### **Internal Circuit**

(): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDA1, CDBA1, CDV3, CDVS1	, add a50 a63 a80 a100
CDLA, CNA	040, 030, 003, 000, 0100
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160
CDS1	ø125, ø140, ø160, ø180, ø200
CE2	ø40, ø50, ø63, ø80, ø100
MDB	ø32, ø40, ø63, ø80, ø100
Specifications	PLC: Programmable Logic Controller
D-F5NTL (With indicator	light)
Auto switch model number	D-F5NTL
Wiring	3 wire
Output	NPN
Output operation	Off-delay
Operation time	≤ 1ms
Off-delay time	200±50ms
Application	IC circuit/Relay/PLC
Power voltage	5/12/24V DC (4.5 to 28V DC)
Current consumption	≤ 10mA
Load voltage	≤ 28V DC
Load current	≤ 80mA
Internal voltage drop	≤ 1.5V (≤ 0.8V at 10mA)
Current leakage	≤ 100μA at 24V DC
Indicator light	ON: When red light emitting diode

• Lead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.3mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 3m (Standard) Note 1) Refer to common specifications on p.5.3-5.

Switch detecting

Switch output ON

PLC response time

time

time

ON

ON(200ms)

OFF

OFF

Switch operating range(mm)

(mm)

/Cylinder speed(mm/s)

#### Note 2) Refer to p.5.3-5 for lead wire length.

#### **Timer Operation**

#### Detection of immediate positioning for high-speed cylinder Detecting point dispersion occurs due to response time of PLC (sequencer); e. g. scanning. Ex.) Cylinder speed-1000 mm/sec. Sequencer response time-0.1 sec. Detecting point despersion-Within 100mm (=1000mm/sec. X 0.1sec.)

Take PLC response time into consideration when using.

#### Dimensions



#### Operation Range ( *l* Dimension)

Actuator parios		Bore size												
Actuator series	32	40	50	63	80	100	125	140	160	180	200			
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	-	4	4	4.5	4.5	4.5	-	-	_	_	-			
CDL1		4	4	4.5	4.5	4.5	5	5	5.5	_	—			
CDS1	-	—	-	-	-	-	5	5	5.5	6	6			
CE2		4	4	4.5	4.5	4.5	—	—	_	—	—			
MDB	3.5	4	4	4.5	4.5	4.5	_	_	_	_	-			

Note) Average value at normal temperature including hysteresis. (Tolerance  $\pm 30\%$ )

5.3-61

## Solid State Switch with Timer/Direct Mounting D-M5NTL/D-M5PTL

#### Grommet

With built-in OFF-delay timer (200ms)



#### **Applicable Actuator Series**

Series	Bore size (mm)
MYC	ø25, ø32, ø40
MYH	ø25, ø32, ø40
ML1	ø25, ø32, ø40

#### **Specifications**

PLC: Programmable Logic Controller

-										
D-M5⊡TL (With indicator light)										
Auto switch model number	D-M5NTL D-M5PTL									
Wiring	3 \	wire								
Output	NPN	PNP								
Output operation	Off-	delay								
Operation time	s ´	lms								
Off-delay time	200±	:50ms								
Application	IC circuit/Relay/PLC									
Power voltage	5/12/24V DC (4.5 to 28V DC)									
Current consumption	≤ 10mA	≤ 12mA								
Load voltage	≤ 28V DC	_								
Load current	≤ 80	)mA								
	≤ 2V	2.01/								
internal voltage drop	(≤ 0.8V at 10mA load current)	≤ 0.8V								
Current leakage	100μA or le	ss at 24V DC								
Indicator light ON: When red light emitting diode										
		Design Dis etc. Disce) Ore (Otere desid)								

Oilproof vinyl heavy insula e, ø3.4, 0.2mm<sup>2</sup>, 3 cores (Brown, Black, Blue), 3m (Standard)

Note 1) Refer to common specifications on the p.5.3-5. Note 2) Refer to the p.5.3-5 for lead wire length

#### **Timer Operation**









#### **Operation Range (** *l* **Dimension)**

Operation Range ( <sup>e</sup> Dimension) (m									
Actuator carias	Bore size								
Actuator series	25	32	40						
MYC	4	4	4						
MYH	4	4	4						
ML1	4	4	4						

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

Technical Data

## Water Resistant 2 Color Indication Style Solid State Switch/Direct Mounting **D-Y7BAL**

#### Grommet

## Improved coolant-resistant performance



#### ▲ Caution

#### Precautions

Consult SMC if using coolant liquid other than water based solution.

#### **Internal Circuit**

#### (): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series	Bore size (mm)
CXS	ø6, ø10, ø15, ø20, ø25, ø32
MGQ, MVGQ	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
MGP	ø12, ø16, ø20, ø25, ø32, ø40, ø50, ø63, ø80, ø100
RSH	ø20, ø32, ø50, ø63, ø80

#### **Specifications** PLC: Programmable Logic Controller **D-Y7BAL (With indicator light)** Auto switch model number D-Y7BAL Wiring 2 wire Application 24V DC Relay/PLC 24V DC (10 to 28V DC) Load voltage ≤ 5 to 40mA Load current Internal voltage drop ≤ 4V Current leakage ≤ 0.8mA at 24V DC Operating point: Red light emitting diode Indicator light Suitable operating point: Green light emitting diode

●Lead wire —— Oilproof vinyl heavy insulation cable, ø3.4, 0.15mm<sup>2</sup>, 2 cores (Brown, Blue), 3m (Standard) Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

Note 2) Refer to p.5.3-5 for lead wire length

#### Dimensions



#### **Operation Range (** *l* **Dimension)**

Actuator							Bore	size					
series	6	10	12	15	16	20	25	32	40	50	63	80	100
CXS	4	4	-	5.5	-	5.5	6	6	-	-	_	_	-
MGQ, MVGQ	_	_	4	—	5	5	5	-	—	—	_	_	_
MGP	-	-	3.5	—	5	5	5	6	6	6	6	6	6.5
RSH	-	-	-	-	-	7.5	-	5.5	-	7.5	7.5	9	-
MGF	—	-	—	—	-	-	-	-	9	-	5	-	7.5

(mm)

### Strong Magnetic Field Resistant 2 Color Indication Style Solid State Switch/Rail Mounting D-P5DWL

#### Grommet

Possible to use in an environment where disturbance magnetic field is generated.



#### ▲ Caution

#### Precautions

Monophase current welding. Not applicable for DC inverter welding, arc welding nor capacitor welding.

#### **Applicable Actuator Series**

Series	Bore size(mm)
CDQ2	ø40, ø50, ø63, ø80, ø100
CDA1	ø40, ø50, ø63, ø80, ø100
MK, MK2, MDU	ø40, ø50, ø63

#### Specifications

Specifications	PLC: Programmable Logic Controlle					
D-P5DW (With indicator light)						
Auto switch model number	D-P5DWL					
Wiring	2 wire (Non-polar)					
Application	24V DC Relay/PLC					
Load voltage	24V DC (20 to 28V DC)					
Load current	6 to 40mA					
Internal voltage drop	≤ 5V					
Current leakage	≤ 1mA at 24V DC					
Operation time	≤ 40ms					
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode					
Application Load voltage Load current Internal voltage drop Current leakage Operation time Indicator light	24V DC Relay/PLC       24V DC (20 to 28V DC)       6 to 40mA       ≤ 5V       ≤ 1mA at 24V DC       ≤ 40ms       Operating point: Red light emitting diode Suitable operating point: Green light emitting diode					

Lead wire -- Oilproof vinyl heavy insulation cable, ø6, 0.5mm<sup>2</sup>, 2 cores (Brown, Blue), 3m Note 1) Refer to common specifications on p.5.3-5.

Note 2) Refer to p.5.3-5 for lead wire length

#### Strong Magnetic Field Resistance

It is possible to use switches next to welding conductor (gun cable) in case that A. C. welding current is ≤ 16,000A. Consult SMC if exceeding 16,000A.







#### **Operation Range(** *t* **Dimension)**

	Bore size										
Actuator series	40	50	63	80	100						
CDQ2	5	5	5	5	5.5						
CDA1	4	4	4.5	4	4.5						
MDL	5	5	5	_	_						
MK, MK2	5	5	5	_	_						



(mm)

## 2 Color Indication Style with Diagnostic Output Solid State Switch/Tie-rod Mounting **D-F5LF (Latching Style)**

#### Grommet

The output signal can be detected in an unsteady detecting area.



#### **Applicable Actuator Series**

11						
Series	Bore size(mm)					
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	ø40, ø50, ø63, ø80, ø100					
CDL1	ø40, ø50, ø63, ø80, ø100, ø125, ø140, ø160					
CDS1	ø125, ø140, ø160, ø180, ø200					
CE2	ø40, ø50, ø63, ø80, ø100					
MDB	ø32, ø40, ø63, ø80, ø100					
Specifications	PLC: Programmable Logic Controller					
D-F5LF (With indicator light)						
Auto switch model number	D-F5LF					
Wiring	4 wire					
Output	NPN					
Diagnostic output	Latching operation					
Application	24V DC Relay/PLC					
Power voltage	24V DC (10 to 26V DC)					
Current consumption	20mA					
Load voltage	≤ 26V DC					
Load current	≤ 40mA					
Internal voltage drop	≤ 0.8V					
Current leakage	≤ 100μA at 24V DC					
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode Orange color indicator lights on when diagnostic output is ON.					

•Lead wire —— Oilproof vinyl heavy insulation cable, ø4, 0.2mm<sup>2</sup>, 4 cores (Brown, Black, Orange, Blue), 0.5m

Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### **Diagnostic Output Operation (Latching Style)**

The diagnostic signal is output when detecting position remains within unsteady area (where indicator light is Red.) for more than 0.5 sec. This signal keeps outputting even after normal output goes to OFF. The diagnostic output becomes OFF when detecting position remains within the most suitable operating range (where indicator light is Green.) for more than 0.5 sec.



(mm)

#### Internal Circuit



#### **Dimensions**



#### Operation Range ( *t* Dimension)

		Bore size									
Actuator series	32	40	50	63	80	100	125	140	160	180	200
CDA1, CDBA1, CDV3, CDVS1, CDLA, CNA	-	5.5	5	5.5	5.5	5.5	-	-	-	_	_
CDL1	-	5.5	5	5.5	5.5	5.5	5.5	6	6.5	-	-
CDS1	—		—	-	-	-	5.5	6	6.5	7	7
CE2	-	5.5	5	5.5	5.5	5.5	-	-	-	-	-
MDB	5	5.5	5.5	6	6	6	_	-	_	_	_

## 2 Color Indication Style Solid State Switch/Direct Mounting D-F9NW(V)/D-F9PW(V)/D-F9BW(V)

#### Grommet



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDU	ø6, ø10, ø16, ø20, ø25, ø32
CDQ2*	ø32, ø40, ø50, ø63, ø80, ø100
CDQS	ø12, ø16, ø20, ø25
MY1	ø16, ø20
MXW	ø8, ø12, ø16, ø20, ø25
MXF	ø8, ø12, ø16, ø20
MXU	ø6, ø10, ø16

Series Bore size (mm)						
MXS/MXQ	ø6, ø8, ø12, ø16, ø20, ø25					
MXP	ø10, ø12, ø16					
MTS ø20, ø25, ø32, ø40						
МК	ø12, ø16					
<b>MK2</b> Ø32, Ø40, Ø50, Ø63						
* Not available for series CDQP2						

Specifications

PLC: Programmable Logic Controller

D-F9□W/D-F	D-F9□W/D-F9□WV (With indicator light)													
Auto switch model number	D-F9NW	D-F9NWV	D-F9BW	D-F9BWV										
Electrical entry	In-line	Perpendicular In-line Perpendicular		In-line	Perpendicular									
Wiring		3 w	/ire		2	wire								
Output	N	۶N		_										
Application		IC circuit/Re		24V DC Relay/PLC										
Power voltage	5	/12/24V DC (4	C)	_										
Current consumption		10r	mA		_									
Load voltage	28V	DC	-	_	24V DC (10 to 28V DC)									
Load current	≤ 4(	DmA	≤ 80	OmA	5 to 40mA									
Internal voltage drop	1 ≥ (≤ 0.8V at 10m)	.5V or load current)	4V or less											
Current leakage		≤ 100µA a	0.8mA	or less										
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode													

- Oilproof vinyl heavy insulation cable, ø2.7, 3 cores (Brown, Black, Blue), 0.15mm<sup>2</sup>, 2 cores (Brown, Blue), 0.18mm<sup>2</sup>, 0.5m

#### Internal Circuit

#### (): If not applicable for IEC Standard



Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions

I ead wire -

# D-F9NW/D-F9PW/D-F9BW



#### **Operation Range (***t* **Dimension)**

Actuator parioa							Bore	size							
Actuator series	6	8	10	12	15	16	20	25	32	40	50	63	80	100	125
CDU(Without shield plate)	3	-	3.5	-	-	5.5	6.5	7	7	-	-	-	-	-	-
CDQ2	-	-	-	-	-	-	-	-	5.5	5.5	5.5	6.5	5.5	6.5	-
MY1B, MY1H	-	-	-	-	_	4	5	_	-	-	-	-	-	-	_
MY1C, MY1M	-	-	-	-	-	8.5	6.5	-	-	-	-	-	-	-	-
MXW	-	2.5	-	3	_	4	6	6	-	-	-	—	-	-	_
MXF	-	2	-	2.5	-	3	4	-	-	-	-	-	-	-	-
MXU	3	-	3.5	-	-	5.5	-	-	-	-	-	-	-	-	-
MXS, MXQ	2	2.5	-	3	-	4	6	6	-	-	-	-	-	-	_
CDQS	-	-	-	3	-	4	5	5.5	-	-	-	-	-	-	-
MK	-	-	-	3	-	4	-	-	-	-	-	-	-	-	_
MK2	_	-	-	-	_	-	_	_	5.5	5.5	5.5	6.5	_	-	_
MXP	_	-	3	3	_	3	_	_	-	_	_	_	_	_	_
MTS	_	-	-	-	-	-	5	5.5	5.5	5.5	-	-	-	-	_

Note) Average value at normal temperature including hysteresis. (Tolerance ±30%)

RB J D



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Technical Data

(mm)

### Water Resistant 2 Color Indication Style Solid State Switch/Direct Mounting D-F9BAL

#### Grommet

#### Water (coolant) resistant performance



#### ▲ Caution

#### **Precautions**

Consult SMC if using coolant liquid other than water based solution.

#### **Internal Circuit**

(): If not applicable for IEC Standard



#### **Applicable Actuator Series**

Series	Bore size (mm)
CDU	ø6, ø10, ø16, ø20, ø25, ø32
CDQ2*	ø32, ø40, ø50, ø63, ø80, ø100
CDQS	ø12, ø16, ø20, ø25
МК	ø12, ø16
MK2	ø32, ø40, ø50, ø63

\*Not available for series CDQP2

#### Specifications

Ì

PLC: Programmable Logic Controller

-F9BAL (With indicator light)									
Auto switch model number	D-F9BAL								
Wiring	2 wire								
Output	_								
Application	24V DC Relay/PLC								
Power voltage	_								
Current consumption	_								
Load voltage	24V DC (20 to 28V DC)								
Load current	5 to 30mA								
Internal voltage drop	≤ 5V								
Current leakage	≤ 1mA at 24V DC								
Indicator light	Operating point: Red light emitting diode Suitable operating point: Green light emitting diode								

- Oilproof vinyl heavy insulation cable, ø2.7, 2 cores (Brown, Blue), 0.18mm<sup>2</sup>, 0.5m Lead wire Note 1) Refer to common specifications on p.5.3-5. Note 2) Refer to p.5.3-5 for lead wire length.

#### Dimensions



#### **Operation Range (***t* **Dimension)**

Jperation Range ( <i>i</i> Dimension) (mm)														
Bore size														
Actuator series	6	8	10	12	15	16	20	25	32	40	50	63	80	100
CDU(Without shield plate)	3	—	3.5	_	—	5.5	6.5	7	7	—	—	_	—	—
CDQ2	_	—	-	-	-	-	—	_	5.5	5.5	5.5	6.5	5.5	6.5
CDQS	—	—	—	3	—	4	5	5.5	—	—	—	_	—	—
MK	_	—	-	3	-	4	—	—	-	—	-	-	-	-
MK2	_	_	-	_	_	_	—	_	5.5	5.5	5.5	6.5	_	_

## Information **1** Plug-in Connector Assembly/How to Use DIN Terminal

#### **Plug-in Connector Assembly**

#### D-A73C, D-A80C, D-J79C D-C73C, D-C80C, D-H7C



With the convex port of the connector, insert the connector into the auto switch into the sleeve. Screw the locking ring onto the switch. (Do not tighten with pliers.)

#### How to Use DIN Terminal/D-A44/A44A/A44C

#### Connection

①Loosen the set screw and pull out the connector from the pin plug. ②Be sure to remove the set screw first and then insert a screw driver into a recessed groove under the terminal block to separate the terminal cover from the terminal block.

 $(\ensuremath{\mathfrak{I}})$  Follow the procedures and connect wires securely to specified terminals.

(4)In standard cases, crimp-style terminals are used to connect wires. Please select proper crimp-style terminals so that the wire can be properly connected to terminal fittings.

#### Method of connection



AC: Connect to terminal No.1 and No.2

DC: Connect (+) to No.1 terminal and (-) to No.2 terminal.



After separating the terminal block from the terminal cover, change the position of the terminal cover to any desired direction (4 directions at every 90°) to change the position of electrical entry. **Caution** 

When taking in or out the connector pin to or from the pin plug, hold the connector as perpendicular as possible.

Applicable cable (heavy insulation cable) Applicable to cable O. D. of Ø6.8 to Ø11.5. Applicable crimp-style terminal 1.25Y-3L, 1.25-3.5S, 1.25-4M



Technical Data

#### Mounting Bracket Band mounting

#### ▲ Caution

 Tighten the screw under the specified torque when mounting auto switch.

②Set the mounting band perpendicularly to cylinder tube.



<Applicable auto switch> Reed switch ...... D-B53, D-B54, D-B64 D-B59W Solid state switch ..... D-G59, D-G5P, D-K59, D-G5BAL D-G59W, D-G5PW, D-K59W D-G59F D-G5NTL

#### How to mount and move the auto switch



①Put a mounting band on the cylinder tube and set it at the auto switch mounting position.

②Put the mounting section of the auto switch between the band mounting holes, then adjust the position of mounting holes of switch to those of mounting band.
③Lightly thread the auto switch mounting screw through the mounting hole into the thread part of band fitting.

④After setting the whole body to the detecting position by sliding, tighten the mounting screw to secure the auto switch. (The tightening torque of M4 screw should be about 1 to 1.2Nm.)

5 Modification of the detection position should be made in the condition of 3.

Part No. of aut	to switch mountin	g bracket (including	g band and screw)
-----------------	-------------------	----------------------	-------------------

		•			-			· ·		
Culinder series	Bore size (mm)									
Cylinder series	20	25	32	40	50	63	80	100		
CDM2, CDBM2	BA2	BA2	BA2	BA2						
CDVM3, 5, CDLM2	-020	-025	-032	-040				_		
CDG1, MGG	•	•	•		BA	BA-06	BA-08	BA-10		
MGC	BA	BA	BA		-05	_	_	-		
CDLG1	-01	-02	-32	BA	_	-	-	-		
CDA1, CDBA1, CDV3, CNA				-04	BA	BA	BA	BA		
CDVS, CDLA, CDL1, CE2	_				-05	-06	-08	-10		
RHC, MLGC, REC	BA- 01	BA- 02	BA- 32		-	-	_	—		

#### Mounting screw set (Stainless steel specification)

Use the following mounting screw set (Set screw included.) according to the required operating conditions. (Mounting band is not included.)

BBA3: For D-B5/B6/G5/K5

D-G5BAL is mounted on the cylinder with the above stainless steel screw BBA3 before shipment or BBA3 is enclosed with D-G5BAL when shipped without cylinder.





1 For series CDJ2/Put a mounting bracket on the cylinder tube. For series CDM2/Put a mounting band on the cylinder tube and set it at the auto switch mounting position.

O Put the mounting part of auto switch in the interval of stationary fitting to fit the mounting hole to the hole of stationary fitting.

③Screw lightly the auto switch mounting screw through the mounting hole into the thread part of band fitting.

(4)After setting the whole body to the detecting position by sliding, tighten the mounting screw to secure the auto switch. (The tightening torque of M3 screw should be about 0.8 to 1Nm.)

5 Modification of the detection position should be made in the condition of 3.

#### Part No. of auto switch mounting bracket (including band and screw)

Cylinder				В	ore siz	ze (mr	n)			
series	6	10	15	16	20	25	32	40	50	63
CDJ2	BJ2-006	BJ2	-	_	-	_	_	-	-	-
CDVJ3, 5	—	-010	—	BJ2	—	-	_	—	—	—
CDLJ2	Ι	_	—	-010	—	_	Ι	_		—
CDM2, CDBM2 CDVM3, 5, CDLM2	_	_	-	-	BM2 -020	BM2 -025	BM2 -032	BM2 -040	_	-
CDG1, MGG	Ι	_	_	_					BMA2 -050	BMA2 -063
CDLG1		—	—	-	BMA2	BMA2	BMA2		_	—
MGC	_	_	—	-	-020	-025	-032	BMA2 -040	BMA2 -050	-
RHC, MLGC, REC	—	—	-	-					-	-
RSDG	-	_	_	-	-	Ι			BMA2 -050	_

Mounting screw set (Stainless steel specification)

Use the following mounting screw set according to the required operating conditions. (Mounting band is not included.)

#### BBA4: For D-C7/C8/H7

D-H7BAL is mounted on the cylinder with the above stainless steel screw BBA4 before shipment or BBA4 is enclosed with D-H7BAL when shipped without cylinder.

Mounting Bracket

#### Band mounting

<Applicable auto switch> Reed switch ...... D-A33, D-A34, D-A44 Solid state switch ..... D-G39, D-K39

D-A3, D-G3/K3 type Auto switch Hook Auto switch mounting screw M5 X 0.8 X 16¢ Mounting band Auto switch Auto switch mounting screw M5 X 0.8 X 16¢ Hook Mounting band

①Loosen the auto switch mounting screws at both sides to pull down the hook. ②Put a mounting band on the cylinder tube and set it at the auto switch mounting position, and then hook the band.

③Screw lightly the auto switch mounting screw.

(4)Set the whole body to the detecting position by sliding, tighten the mounting screw to secure the auto switch. (The tightening torque should be about 2 to 3Nm.)

 $\textcircled{5}\$  Modification of the detecting position should be made in the condition of 3.

	Part	No.	of	auto	switch	mounting	band
--	------	-----	----	------	--------	----------	------

	• • •												
Cylinder					I	Bore	size (	(mm)					
series	20	25	32	40	50	63	80	100	125	140	160	180	200
CDA1, CDBA1, CDV3 CDVS, CDLA, CE2, CNA	_	_	_	BD1	BD1	BD1	BD1	BD1	-	-	-	_	-
CDL1				-04101	-05101	-00101	-00101	-10101	BC1	DC1	BC1	—	_
CDS1	_	_	_	_	_	_	_	_	-125	-140	-160	BS1 -180	BS1 -200
RHC	BD1 -01M	BD1 -02M	BD1 -02	BD1 -04M	_	_	_	_	_	_	_	_	_

<Applicable auto switch> Reed switch ...... D-A33A, D-A34A, D-A44A Solid state switch ..... D-G39A, D-K39A



①Tighten completely the switch mounting screw on the switch body side.
②Put a mounting band on the cylinder tube and set it at the auto switch mounting position. Put the mounting section of auto switch between the interval of mounting band, then adjust the position of mounting holes of switch to those of mounting band.
③Lightly thread the auto switch mounting screw through the mounting hole into the thread part of band fitting.

④After reconfirming the detecting position, tighten the mounting screw to secure the auto switch. (The tightening torque of M5 screw should be about 2 to 3Nm.)
 ⑤Modification of the detecting position should be made in the condition of ③.

#### Part No. of auto switch mounting bracket (including band and screw)

Outlington and in a		Bore size (mm)							
Cylinder series	20	25	32	40	Technical				
CDM2, CDBM2 CDLM2	BM3-020	BM3-025	BM3-032	BM3-040	Data				



## Information **2**

How to Mount and Move the Auto Switch

#### Mounting Bracket Rail mounting

#### <Applicable auto switch>

Reed switch ...... D-A72, D-A73, D-A80, D-A72H, D-A73H, D-A76H, D-A80H D-A73C, D-A80C, D-A79W Solid state switch ...... D-F79, D-F7P, D-J79, D-F7NV, D-F7PV, D-F7BV, D-J79C D-F79W, D-F7PW, D-J79W, D-F7NWV, D-F7BWV D-F79F, D-F7LF, D-F7BAL, D-F7NTL

#### How to mount and move the auto switch



Slide the auto switch mounting nut inserted into the mounting rail and set it at the auto switch mounting position.

O Fit the convex part of auto switch mounting arm into the concave part of auto switch mounting rail. Then slide the switch over the nut.

(CDQ2 series: Fit the convex part of auto switch mounting arm through the auto switch spacer into the concave part of auto switch mounting rail.)

3 Push the auto switch mounting screw lightly into the mounting nut through the hole of auto switch mounting arm.

(4)After reconfirming detection position, tighten the mounting screw to secure the auto switch. (Tightening torque of M3 screw should be 0.5 to 0.7Nm.) (5)Modification of the detecting position should be made in the condition of (3).

Part No. of auto sw	/itch mounting bracket	(including nut,	screw and spacer)

Outline days a serie s						Bo	re size (m	m)						
Cylinder series	12	16	20	25	32	40	50	63	80	100	125	140	160	
CDQ2	BQ-1	BQ-1	BQ-1	BQ-1	BQ-2	BQ-2	BQ-2	BQ-2	BQ-2	BQ-2	BQ-2	BQ-2	BQ-2	
MDU	-	—	-	BMU1-025	BMU1-025	BMU1-025	BMU1-025	BMU1-025	-	-	-	-		
RSDQ	-	—		PO 1	50.0			-	-	-	-	-	-	
MK, MK2	-	—	BQ-1	DQ-1		PO 2		DO 2	BQ-2	<b>DO 0</b>	-	-	-	-
CE1	BQ-1	—		-	BQ-2	BQ-2		DQ-2	-	-	-	-	-	
CXT	-	_	-	-			_	-	-	—	—	-		

#### Mounting screw set (Stainless steel specification)

Use the following mounting screw set (Nut included.) according to the required oper-

ating conditions. (Auto switch spacer is not included.)

BBA2: For D-A7/A8/F7/J7

D-F7BAL is mounted on the cylinder with the above stainless steel screw BBA2 before shipment of BBA2 is enclosed with D-F7BAL when shipped without cylinder.

#### Mounting Bracket Tie-rod mounting

#### <Applicable auto switch>

Reed switch	D-A53, D-A54, D-A56, D-A64, D-A67
	D-A59W
Solid state switch	D-F59, D-F5P
	D-J59, D-J51, D-F5BAL
	D-F59W, D-F5PW, D-J59W
	D-F59F, D-F5LF
	D-F5NTL

#### How to mount and move the auto switch



①Fix the auto switch on the auto switch mounting bracket with the mounting screw (M4) and install the set screw.

②Fit the mounting bracket into the cylinder tie-rod and then fix the auto switch at the detecting position with the hexagonal wrench. (Be sure to put the auto switch on the surface of cylinder tube.)

③When changing the detecting position, loosen the set screw to move the auto switch and then re-fix the auto switch on the cylinder tube. (Tightening torque of M4 screw should be 1 to 1.2 Nm.)

### Part No. of auto switch mounting bracket (including bracket, mounting screw and set screw)

Cylinder					Bore	size (	(mm)				
series	32	40	50	63	80	100	125	140	160	180	200
CDA1, CDBA1, CDV3 CDVS, CDLA, CE2, CNA	-	BT	BT	BT	BT	BT	_	_	_	-	-
CDL1	—	-04	-04	-06	-08	-08	BT	вт	вт	—	_
CDS1	_	_	_	_	_	_	-12	-12	-16	BT -18A	BT -20
MDB/MDBB	BT-03	BT-03	BT-05	BT-05	BT-06	BT-06	—	—	—	—	_

#### Mounting screw set (Stainless steel specification)

Use the following mounting screw set (Set screw included.) according to the required operating conditions. (Mounting bracket is not included.) BBA1: For D-A5/A6/F5/J5

D-F5BAL is mounted on the cylinder with the above stainless steel screw BBA1 before shipment or BBA1 is enclosed with D-F5BAL when shipped without cylinder.

<Applicable auto switch> Reed switch ...... D-A33C, D-A34C, D-A44C Solid state switch ..... D-G39C, D-K39C

#### How to mount and move the auto switch



①Fix the mounting bracket (A) on the auto switch with the set screw.

②Fit the convex part of mounting bracket into tie-rod and set the auto switch at the mounting position.

③Insert the mounting bracket <sup>(B)</sup> from the underneath and put lightly in the tierod with the mounting screw.

④Set the whole body to the detecting position by sliding, tighten the mounting screw to secure the auto switch. (Tightening torque of M5 screw should be 2 to 3Nm.)

S Modification of the detecting position should be made in the condition of S.

#### Part No. of auto switch mounting bracket (including bracket and screw)

Culinder series	Bore size (mm)							
Cylinder series	40	50	63	80	100			
CDA1, CDBA1	BA3	BA3	BA3	BA3	BA3			
CDV3, CDVS, CDL1, CE2, CNA	-040	-050	-063	-080	-100			

RB

J

D

-X

20-

Technical

Data

#### Mounting Bracket Direct mounting

#### <Applicable auto switch> Reed switch ...... D-90/97, D-90A/93A

#### How to mount and move the auto switch



#### Part No. of auto switch mounting bracket (including bracket and screw)

Cylinder		Bore size (mm)						
series	6	10	15	16	20	25	32	
CDJP-DD	BP-1	BP-1	BP-1	—	—	—	-	
CDU	BU-1	BU-1	_	BU-1	BU-1	BU-1	BU-1	

#### <Applicable auto switch>

Reed switch	D-A90(V)/A93(V)/A96(V)
Solid state switch	D-F9N(V)/F9P(V)/F9B(V)/F9NW(V)/
	F9PW(V)/F9BW(V)/F9BAL

#### How to mount and move the auto switch



#### How to mount and move the auto switch



Insert the auto switch mounting nut into the auto switch mounting groove and then set the switch at the mounting position by sliding.
 Put the convex part of auto switch into the mounting groove and slide it over the nut.

③Push the auto switch mounting screw lightly into the mounting nut through the mounting hole.

(4)After reconfirming detecting position, tighten the mounting screw to secure the auto switch. (Tightening torque of M2.5 screw should be 0.1 to 0.2Nm.)

#### Part No. of auto switch mounting bracket (including nut and screw)

Cylinder	Bore size (mm)		
series	25	32	40
ML1 M2.5 X 12 <i>t</i>	BMY2-025	BMY2-025	BMY2-025

#### <Applicable auto switch>

Reed switch ...... D-Z73/Z76/Z80 Solid state switch ..... D-Y59Å/Y69Å/D-Y7P(V) D-Y7NW(V)/Y7PW(V)/Y7BW(V) D-Y7BAL

#### How to mount and move the auto switch

L 1
Note) Use a watchmaker driver whose grip dia. is 5 to 6mm when tightening the auto switch mounting screw. The tightening torque should be about 0.05 to 0.1Nm. Tighten 90° more after you find the screw tightened.

①Insert the auto switch into the mounting groove and set it at the auto switch mounting position.

2After confirming the detecting position, tighten the mounting screw to secure the auto switch. 3Modification of the detecting position should be made in step ①.

Mounting Bracket Direct mounting

<Applicable auto switch> Solid state switch ------ D-P5DWL

#### How to mount and move the auto switch



 Mount the mounting bracket onto the mounting nut by tightening bracket et fixing screw lightly through the mounting hole on the top of bracket. Insert the mounting bracket assembly (bracket+nut) into the mounting

groove and set it at the auto switch mounting position. ③Push the auto switch mounting screw lightly into the auto switch through

the mounting hole to secure.

(4)After reconfirming detection position, tighten the mounting screw to secure the auto switch. (Tightening torque should be 0.5 to 0.7Nm.)

#### Part No. of auto switch mounting bracket (including bracket and screw)

Cylinder series	Bore size (mm)		
	40	50	63
MK, MK2	BQP1-050	BQP1-050	BQP1-050

RB
J
D
-X
20-

Technical Data
## Auto Switch Weight (Single Unit)

## **Band mounting**

Band mounting (g)					
Applicable	Madal		Lead wire length		
switch		0.5m	3m	None	
Reed switch	D-C7 D-C8	2 wire	9	46	
		3 wire	10	50	
	D-C73C D-C80C		14	53	_
	D-B5 D-B6		22	78	_
	D-B59W		20	76	_
	D-A3		_	_	116
	D-A4		_		114
	D-A3⊡A D-A44A		_	_	110
Solid state switch	D-H7	2 wire	11	50	_
		3 wire	13	57	_
		4 wire	13	56	_
	D-K5	2 wire	18	68	_
	D-G5	3 wire	20	78	_
		4 wire	20	74	_
	D-□39		_	—	116
	D-□39A		_	_	110
	D-H7C		15	54	

Tie-rod	mounting				(g)
Applicable	Model		Lead wire length		
switch	Moder	woder		3m	None
	D-A5 D-A6	2 wire	24	80	_
		3 wire			
	D-A59W		25	80	_
	D-A3□C	ø40	_	_	162
		ø50	_	—	166
		ø63	_	—	184
Reed switch		ø80		_	210
		ø100	_	—	232
	D-A44C	ø40		—	160
		ø50		_	164
		ø63		_	182
		ø80		_	208
		ø100	_	—	230
	D-J5	2 wire	21	71	—
Solid state switch	D-F5	3 wire	23	81	_
0		4 wire	22	77	_

Rail mounting					
Applicable	Madal	Lead wi			
switch	woder	0.5m			
	D-A7/A7⊡H	2 wire	10		
	D-A8/A80H	3 wire	11		
Reed switch	D-A73C D-A80C		12		
	D-A79W		11		

iounting (g)					
e	Model		Lead wire length		
			0.5m	3m	
ch	D-A7/A7⊟H D-A8/A80H	2 wire	10	47	
		3 wire	11	52	
	D-A73C D-A80C		12	54	
	D-A79W		11	53	
	D-J7	2 wire	11 11	50	
e	D F7	3 wire	13	57	
	D-F7	4 wire	13	56	
	D-J79C		13	52	

Direct mounting (g)						
Applicable	Madal			Lead wire length		
switch	K	Model			3m	
	D-A9/A9□V 2 wire 3 wire		2 wire	7	35	
			8	41		
	D-9			5	23	
Deed suitely	D-9□A			9	47	
Reed Switch	D-E7⊡A D-E8⊡A		2 wire	10	47	
			3 wire	11	55	
	D-Z7		2 wire	9	49	
	D-Z8		3 wire	10	55	
	D-Y	1	2 wire	9	50	
		color	3 wire	10	53	
		2	2 wire	11	54	
		color	3 wire	11	54	
	D-M5		2 wire	14	53	
Solid state			3 wire	16	60	
SWITCH	D-Y7BA			_	54	
	D-F9□	1	2 wire	6	31	
		color	3 wire	7	37	
		2	2 wire	7	32	
		color	3 wire	7	34	
	D-F9BA			_	37	

Solid sta switch