

4SA1/4SB1

3, 5 port pilot operated valve
Small pneumatic valve

Overview

The discrete 4SA1 and 4SB1 Series are available as 3 port valve or 5 port valve (body porting, sub-plate porting). Both individual and reduced-wiring manifolds are available.

Features

C1.04 [dm³/(s·bar)] flow characteristics with 10 mm width

This valve is used to drive a max. 40 diameter cylinder and for an air-operated valve.

Low power consumption 0.6 W

Push-in joint

The body port 4SA1 and manifold have a push-in joint as standard.

Easy replacement of joint

With the valve installed, the push-in joint is easily replaced with just two screws.

Increased life and responsiveness

Special packing features outstanding wear, new long life, and initial response stability.

Increased reliability

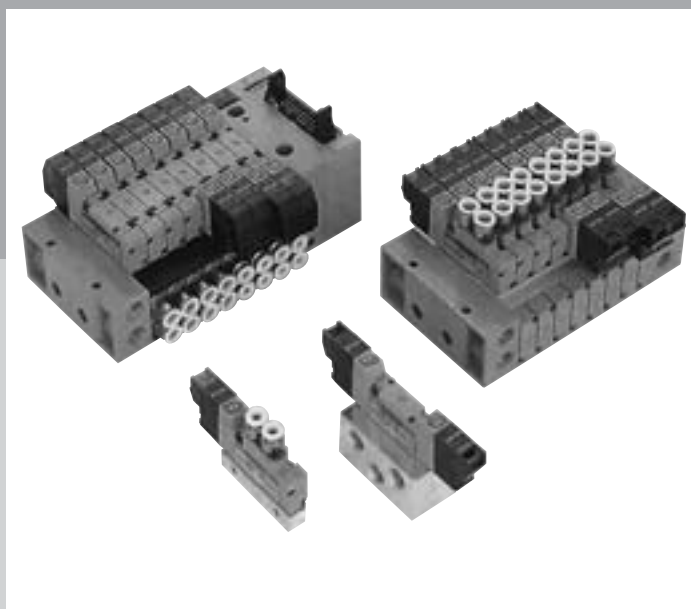
A newly designed soft spool improves working reliability.

Compatible with DIN rail mounting

This valve is easily installed in the panel.

UNIWIRE SYSTEM compatible

Serial transmission compatible with the UNIWIRE SYSTEM reduces wiring and provides long-distance transmission.

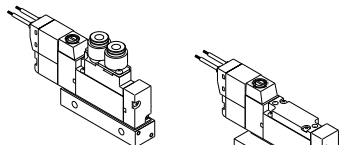
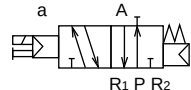
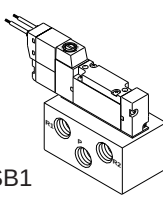
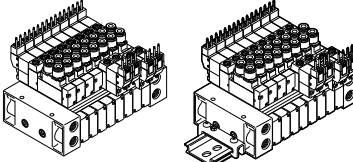
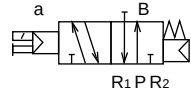
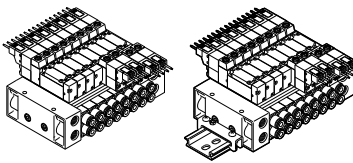
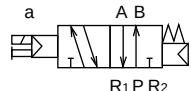
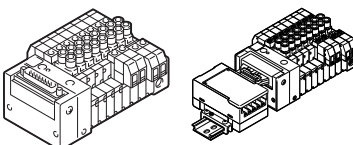
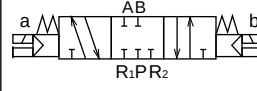
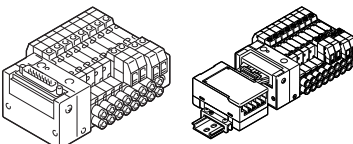
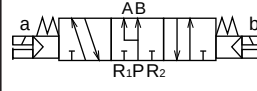
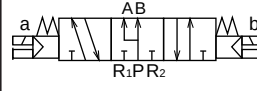


C O N T E N T S

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MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NA/ NVP
4F*0E
HMV HSV
2QV 3QV
SKH
PCD/ FS/FD
Ending

Appearance / piping method			Model no.			Position No. of solenoid JIS symbol	Valve performance		Voltage (V)					
							Flow characteristics C (dm ³ / (s·bar)) Note 1	Applicable cylinder diameter						
Discrete	Body porting	3SA1/4SA1 	3 port	3SA1	-	<3 port valve> ● 2-position single N.C. type 	0.70 to 0.90	ø20 to ø40	12 DC 24 DC					
	Sub-plate porting	4SB1 	5 port	4SA1	-		0.51 to 0.95							
			4SB1	-	0.49 to 1.03									
Individual wiring manifold	Body porting	M4SA1 MD4SA1 	3 port	M3SA1	Direct mount	● 2-position single N.O. type 	0.83 to 1.04	ø20 to ø40	12 DC 24 DC					
	Sub-plate porting	M4SB1 MD4SB1 	MD3SA1	DIN rail mount	<5 port valve> ● 2-position single solenoid  ● 2-position double solenoid 		0.50 to 1.00							
			5 port	M4SA1		Direct mount	● 2-position double solenoid 				0.48 to 0.95			
			MD4SA1	DIN rail mount										
			M4SB1	Direct mount										
			MD4SB1	DIN rail mount										
			Reduced wiring manifold	Body porting		M4SA1 MD4SA1 	3 port				M3SA1	Direct mount	● 3-position all ports closed 	0.83 to 1.04
	Sub-plate porting	M4SB1 MD4SB1 		MD3SA1	DIN rail mount	● 3-position A/B/R connection  ● 3-position P/A/B connection 	0.50 to 1.00							
5 port				M4SA1	Direct mount			● 3-position P/A/B connection 	0.48 to 0.95					
MD4SA1				DIN rail mount										
M4SB1				Direct mount										
MD4SB1				DIN rail mount										

Note 1: Effective sectional area S and sonic conductance C is converted as $S \approx 5.0 \times C$.

	Solenoid position								A/B port size				Electric connection							Page
	2-position single solenoid	2-position double solenoid	3-position all ports closed	3-position A/B/R connection	3-position P/A/B connection	2-position single solenoid N.C. type	2-position single solenoid N.O. type	Mix	Push-in joint		Female thread		Grommet lead wire	C-connector	D-connector	A-connector	D sub-connector	Flat cable connector	Serial transmission	
									ø4	ø6	M5	Rc1/8								
						●	●		●	●	●		●	●	●	●				734
	●	●	●	●	●				●	●	●		●	●	●	●				734
	●	●	●	●	●							●	●	●	●	●				740
						●	●		●	●	●		●	●	●	●				746
						●	●		●	●	●		●	●	●	●				
	●	●	●	●	●			●	●	●	●		●	●	●	●				746
	●	●	●	●	●			●	●	●	●		●	●	●	●				
	●	●	●	●	●			●	●	●	●		●	●	●	●				750
	●	●	●	●	●			●	●	●	●		●	●	●	●				
						●	●		●	●	●						●	●		754
						●	●		●	●	●						●	●	●	
	●	●	●	●	●			●	●	●	●						●	●		754
	●	●	●	●	●			●	●	●	●						●	●	●	
	●	●	●	●	●			●	●	●	●						●	●		760
	●	●	●	●	●			●	●	●	●						●	●	●	

* Refer to the following page for details of electric connection and other options.

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

4SA1/4SB1 Series

MN3E0 MN4E0	Electric connection			Manual override	Other options	
4GA/B	Discrete valve and individual wiring type manifold		Reduced wiring manifold			
M4GA/B	Blank	Grommet lead wire	D1 D-connector with socket	T30 D-sub connector type (Left)	Blank Non-locking / locking common type	P Mounting plate
4GA/B (Master)	● Lead wire length 300 mm		Socket/crimp terminal attached			 (Only body porting)
W4GA/B2						
W4GB4						
MN3S0 MN4S0						
4TB	C C-connector with lead wire	D2 D-connector with lead wire with surge suppressor/light	T30R D-sub connector type (Right)		(1) For non-locking, push to ON and release to OFF. (2) For locking type, PUSH + right 90° rotation to hold ON. Counterclockwise rotation to release to OFF.	
4L2-4/LMF0	● Lead wire length C : 300 mm C00: 500 mm C01: 1000 mm C02: 2000 mm	● Lead wire length D2 : 300 mm D20: 500 mm D21: 1000 mm D22: 2000 mm				
4SA/B0						
4SA/B1						
4KA/B	C1 C-connector with socket	D3 D-connector with socket with surge suppressor/light	T50 Flat cable connector type (20P) (Left)		(1) For non-locking, push to ON and release to OFF. (2) For locking type, PUSH + right 90° rotation to hold ON. Counterclockwise rotation to release to OFF.	
PV5G/CMF	Socket/crimp terminal attached	Socket/crimp terminal attached				
PV5/CMF						
3MA/B0						
3PA/B	C2 C-connector with lead wire with surge suppressor/light	A2 A-connector with lead wire with surge suppressor/light	T50R Flat cable connector type (20P) (Right)	M3 Non-locking and locking common convex type		
P/M/B	● Lead wire length C2 : 300 mm C20: 500 mm C21: 1000 mm C22: 2000 mm	● Lead wire length A2 : 300 mm A20: 500 mm A21: 1000 mm A22: 2000 mm				
NP/NA/ NVP						
4F*0E						
HMV HSV	C3 C-connector with socket with surge suppressor/light	A3 A-connector with socket with surge suppressor/light	T6* Serial transmission		(1) For non-locking, push to ON and release to OFF. (2) For locking type, PUSH + right 90° rotation to hold ON. Counterclockwise rotation to release to OFF.	
2QV 3QV	Socket/crimp terminal attached	Socket/crimp terminal attached				
SKH						
PCD/ FS/FD						
Ending	D D-connector with lead wire	Internal circuit diagram with surge suppressor and indicator light				
	● Lead wire length D : 300 mm D00: 500 mm D01: 1000 mm D02: 2000 mm	(+) Red (-) Black * Note that surge suppressor and indicator light has polarity.				

* Note that surge suppressor and indicator light has polarity.
* Diode is used for a surge suppressor.

Discontinue

Discrete

3, 5 port pilot operated valve small pneumatic valve

Body porting

4SA1 Series

● Applicable cylinder bore size: ø20 to ø40

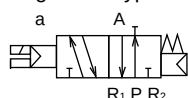


Refer to Intro 17 for details.

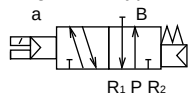


● JIS symbol

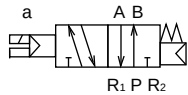
3 port valve
2-position
single N.C. type



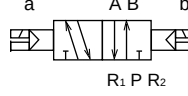
2-position
single N.O. type



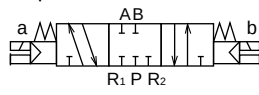
5 port valve
2-position single solenoid



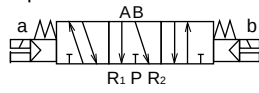
2-position double solenoid



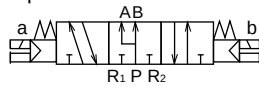
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Valve type / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature °C	5 to 50
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s ²	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Electric specifications

Descriptions	4SA1	
Rated voltage V	DC	12, 24
Holding current	DC 12 V	0.050 (0.058)
Note 1 A	DC 24 V	0.025 (0.029)
Power consumption Note 1 W	DC 12 V	0.6 (0.7)
	DC 24 V	0.6 (0.7)
Voltage fluctuation range	±10%	
Heat proof class	B	
Temperature rise °C	50	
Surge suppressor	Option	
Indicator	With light (option)	

Note 1: The value in () are with indicator light.

Individual specifications

Descriptions	3SA1		4SA1
Port size	A/B port	ø4/ø6 push-in joint, M5	
	P/R ₁ /R ₂ port	M5	M5
Response time	2-position	20 or less	20 or less
Note 2 ms	3-position	30 or less	30 or less
Weight g	2-position	Single solenoid	46
		Double solenoid	60
	3-position	-	62

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.

Flow characteristics

Model no.	Solenoid position	P → A/B		A/B → R	
		C (dm ³ / (s·bar))	b	C (dm ³ / (s·bar))	b
3SA1	2-position	0.90	0.29	0.70	0.30
4SA1	2-position	0.90	0.37	0.70	0.37
	3-position	All ports closed	0.62	0.40	0.56
		A/B/R connection	0.51	0.40	0.71
		P/A/B connection	0.95	0.41	0.55

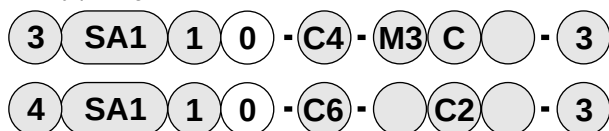
Note 3: Effective sectional area S and sonic conductance C is converted as $S \approx 5.0 \times C$.

Ozone proof specifications (Ending 5)

** - Voltage - P11

How to order discrete valve

● Body porting



Model no.

A Solenoid position

Constant

B Port size

C Manual override

D Electric connection

* Refer to page 732 for the circuit diagram of the type with surge suppressor and light.

E Other options

F Voltage



Note on model no. selection

Note 1: For port A/B with filter (foreign matter mixture prevention), indicate F after port size symbol. (Option)

Note 2: Push-in joint straight type is standard. Consult with CKD about elbow type.

<Example of model number>

4SA110-C6-M3C2P-3

Model: 4SA1 body porting type

A Solenoid position : 2-position single solenoid

B Port size : ø6 push-in joint

C Manual override: Non-locking/locking
Convex type manual overrideD Electric connection: C-connector
Lead wire (300 mm) with surge
suppressor/indicator light

E Other options : Mounting plate

F Voltage : 24 VDC

			Model no.	
			3SA1	4SA1
Symbol	Descriptions			
A Solenoid position				
1	2-position single solenoid			●
2	2-position double solenoid			●
3	3-position all ports closed			●
4	3-position A/B/R connection			●
5	3-position P/A/B connection			●
1	2-position single solenoid N.C. type		●	
11	2-position single solenoid N.O. type		●	
B Port size				
Port	A/B port	Note 1	P/R ₁ /R ₂ port	
C4	ø4 push-in joint	Note 2	M5	●
C6	ø6 push-in joint	Note 2		●
M5	M5			●
C Manual override				
Blank	Non-locking/locking manual override		●	●
M3	Non-locking/locking convex type manual override		●	●
D Electric connection				
Grommet lead wire				
Blank	Grommet lead wire (300 mm)		●	●
C-connector (lead wire lateral)				
C	Lead wire (300 mm)		●	●
C00	Lead wire (500 mm)		●	●
C01	Lead wire (1000 mm)		●	●
C02	Lead wire (2000 mm)		●	●
C1	No lead wire (with socket)		●	●
C2	Lead wire (300 mm)	with surge suppressor/light	●	●
C20	Lead wire (500 mm)	with surge suppressor/light	●	●
C21	Lead wire (1000 mm)	with surge suppressor/light	●	●
C22	Lead wire (2000 mm)	with surge suppressor/light	●	●
C3	No lead wire (with socket) with surge suppressor/light		●	●
D-connector (lead wire upward)				
D	Lead wire (300 mm)		●	●
D00	Lead wire (500 mm)		●	●
D01	Lead wire (1000 mm)		●	●
D02	Lead wire (2000 mm)		●	●
D1	No lead wire (with socket)		●	●
D2	Lead wire (300 mm)	with surge suppressor/light	●	●
D20	Lead wire (500 mm)	with surge suppressor/light	●	●
D21	Lead wire (1000 mm)	with surge suppressor/light	●	●
D22	Lead wire (2000 mm)	with surge suppressor/light	●	●
D3	No lead wire (with socket) with surge suppressor/light		●	●
A-connector (lead wire downward)				
A2	Lead wire (300 mm)	with surge suppressor/light	●	●
A20	Lead wire (500 mm)	with surge suppressor/light	●	●
A21	Lead wire (1000 mm)	with surge suppressor/light	●	●
A22	Lead wire (2000 mm)	with surge suppressor/light	●	●
A3	No lead wire (with socket) with surge suppressor/light		●	●
E Other options				
Blank	None		●	●
P	Mounting plate (only single)		●	●
F Voltage				
3	24 VDC		●	●
4	12 VDC		●	●

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B
(Master)

W4GA/B2

W4GB4

MN3S0
MN4S0

4TB

4L2-4/
LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/
CMFPV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0E

HNV
HSV2QV
3QV

SKH

PCD/
FS/FD

Ending

Discrete

3, 5 port pilot operated valve

Discrete

3, 5 port pilot operated valve

Discrete

3, 5 port pilot operated valve

Discrete

3, 5 port pilot operated valve

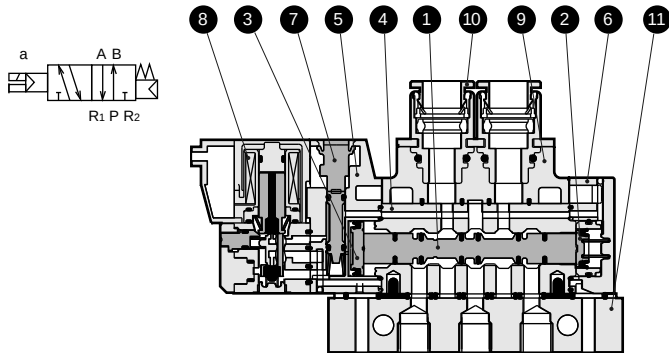
4SA1 Series

Discrete valve: Body porting

Internal structure and parts list

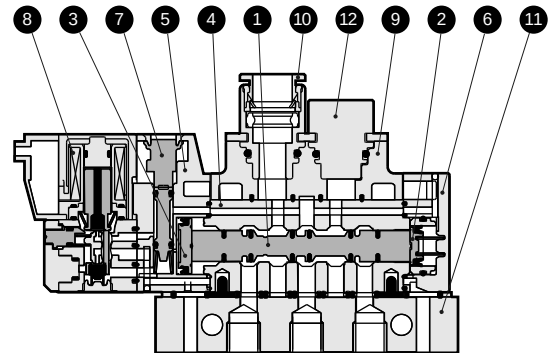
4SA110

● 2-position single solenoid



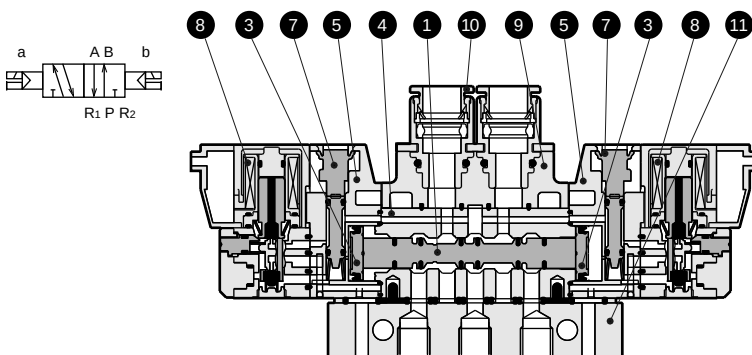
3SA110-NC

● 2-position single solenoid N.C. type



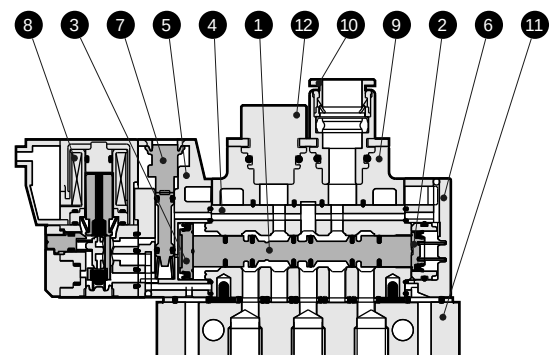
4SA120

● 2-position double solenoid



3SA1110-NO

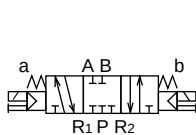
● 2-position single solenoid N.O. type



4SA130

● 3-position

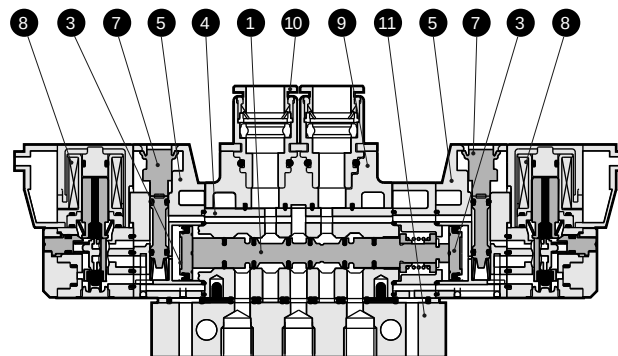
All ports closed



A/B/R connection



P/A/B connection



Main parts list

No.	Parts name	Material
1	Spool assembly	-
2	Piston S assembly	-
3	Piston D assembly	-
4	Body	Aluminum
5	Piston room	Resin
6	Cap	Resin
7	Manual override	Resin
8	Coil assembly	-
9	Joint adaptor	Resin
10	Cartridge type push-in joint	-
11	Piping adapter	Aluminum
12	Plug cartridge	Aluminum

Repair parts list

Parts name	Model no.
Coil assembly	4S1- Electric connection -COIL- Voltage ↑ Blank for grommet lead wire
Cartridge type Push-in joint (and related parts)	ø4 straight 4S1- JOINT -C4
	ø6 straight 4S1- JOINT -C6
	Plug cartridge 4S1- JOINT -CPG
	Joint stopper 4S1- JOINT -CP
	M5 cartridge 4S1- JOINT -CM5
	M5 plug cartridge 4S1- JOINT -CMB
	M5 stopper 4S1- JOINT -CMP
Socket assembly (lead wire 300 mm)	4S1 - SOCKET-ASSY - 300

4SA1 Series

Discrete valve: Body porting

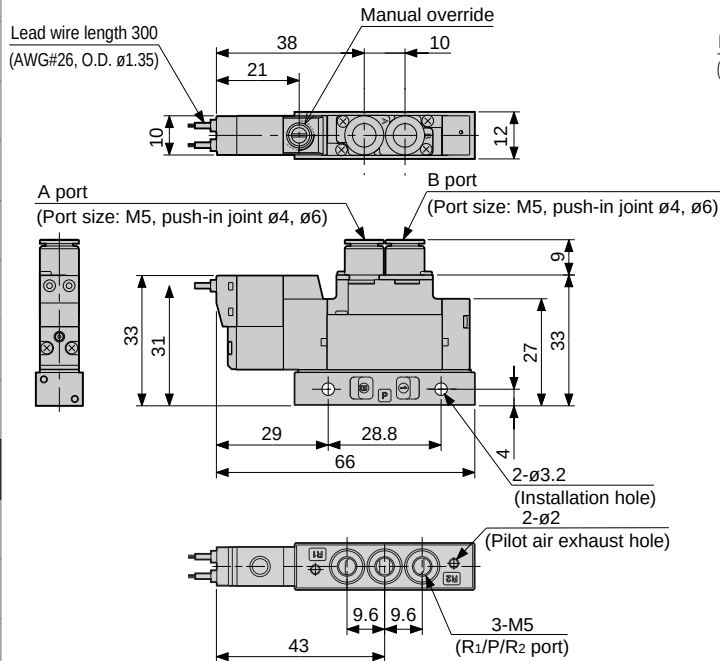
Dimensions



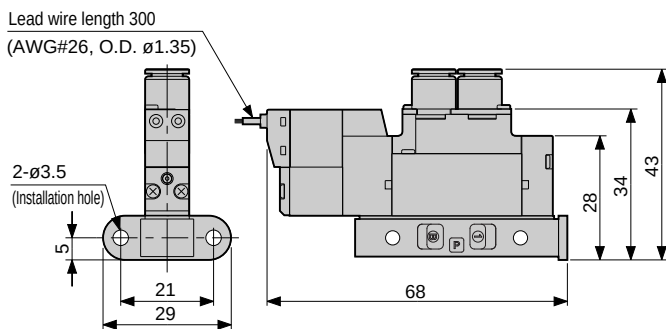
3SA110 (Port A or B with plug)

4SA110

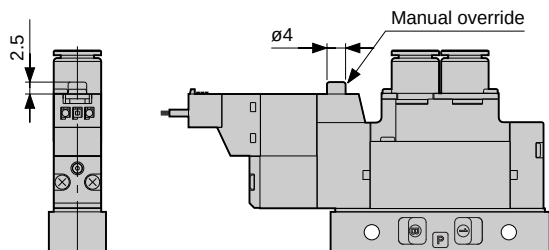
- 2-position single solenoid: Grommet lead wire



- Mounting plate: (P <2-position single solenoid only>)

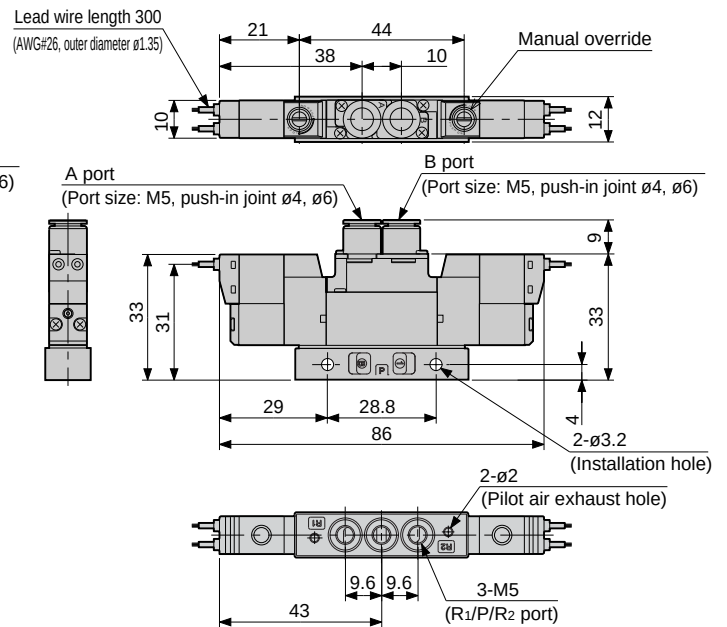


- Manual override convex type (M3)



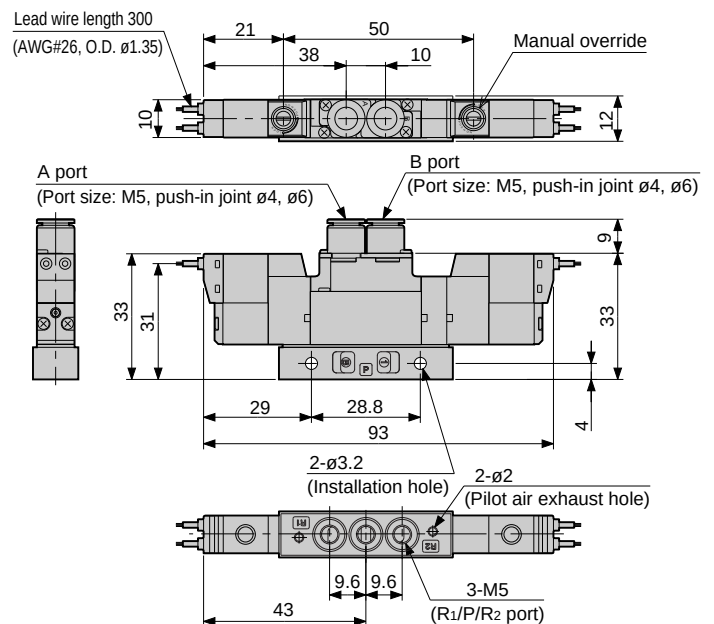
4SA120

- 2-position double solenoid: Grommet lead wire



4SA130

- 3-position: Grommet lead wire



Dimensions

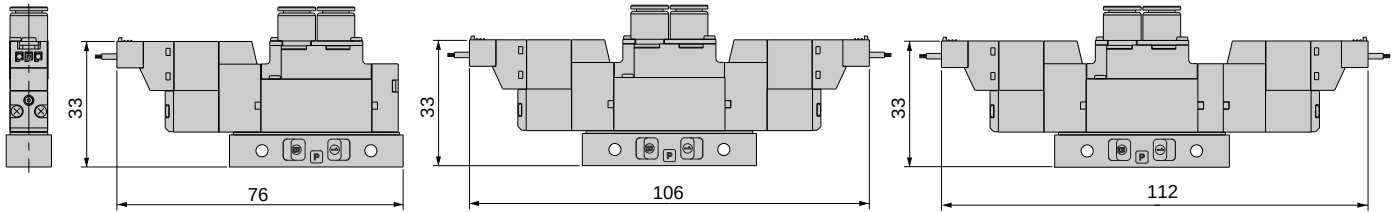


① 2-position single solenoid

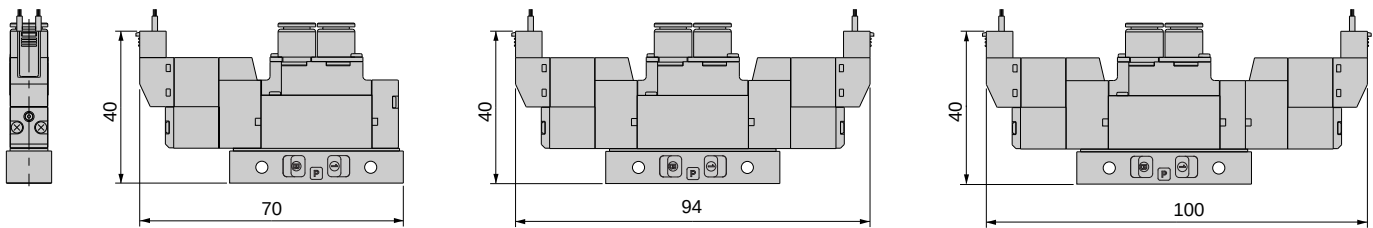
② 2-position double solenoid

③ 3-position

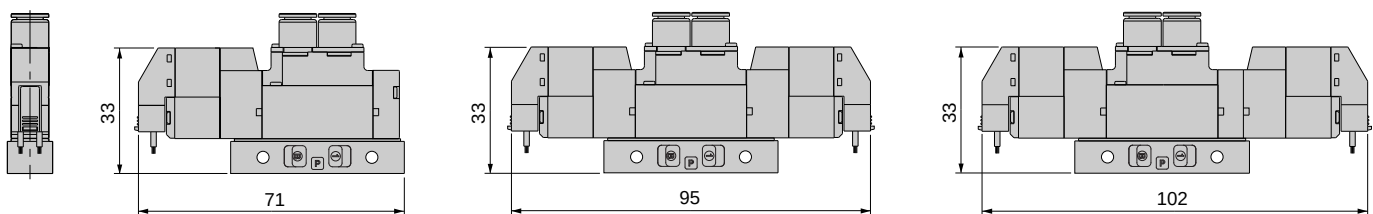
● C-connector: (C, C0*, C1, C2, C2*, C3)



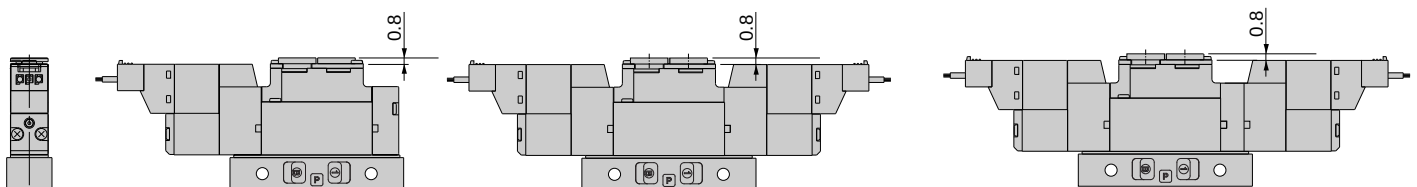
● D-connector: (D, D0*, D1, D2, D2*, D3)



● A-connector: (A2, A2*, A3)



● Female thread dimension: (M5)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete
3, 5 port pilot operated valve

Discontinue



Discrete

3, 5 port pilot operated valve small pneumatic valve
Sub-plate porting

4SB1 Series

● Applicable cylinder bore size: $\varnothing 20$ to $\varnothing 40$

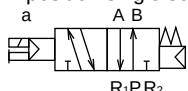


Refer to Intro 17 for details.



● JIS symbol

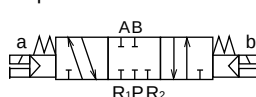
5 port valve
2-position single solenoid



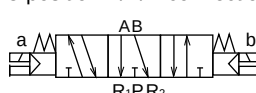
2-position double solenoid



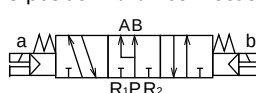
3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Valve type / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature °C	5 to 50
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s ²	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Electric specifications

Descriptions	4SB1	
Rated voltage V	DC	12, 24
Holding current	DC	12 V
Note 1 A	DC	24 V
Power consumption	DC	12 V
Note 1 W	DC	24 V
Voltage fluctuation range	±10%	
Heat proof class	B	
Temperature rise °C	50	
Surge suppressor	Option	
Indicator	With light (option)	

Note 1: The value in () are with indicator light.

Individual specifications

Descriptions	4SB1	
Port size	A/B port	Rc1/8
	P/R ₁ /R ₂ port	Rc1/8
Response time	2-position	20 or less
Note 2 ms	3-position	30 or less
Weight g	2-position	Single solenoid
		Double solenoid
	3-position	117

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON.
The value varies depending on pressure and quality of lubricant.

Flow characteristics

Model no.	Solenoid position	P → A/B		A/B → R	
		C (dm ³ / (s·bar))	b	C (dm ³ / (s·bar))	b
4SB1	2-position	0.95	0.25	0.98	0.12
	3-position	All ports closed	0.59	0.41	0.59
		A/B/R connection	0.49	0.39	1.03
		P/A/B connection	1.04	0.27	0.60

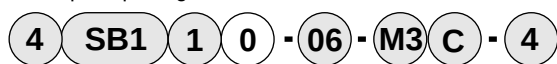
Note 3: Effective sectional area S and sonic conductance C is converted as $S \div 5.0 \times C$.

Ozone proof specifications (Ending 5)

** - Voltage - P11

How to order discrete valve

● Sub-plate porting



A Solenoid position

Constant

B Port size

C Manual override

D Electric connection

* Refer to page 732 for the circuit diagram of the type with surge suppressor and light.

E Voltage

**Note on model no. selection**

Note 1: For A/B port with filter (foreign matter mixture prevention), indicate F after port size symbol. (Option)

Symbol	Descriptions		
A Solenoid position			
1	2-position single solenoid		
2	2-position double solenoid		
3	3-position all ports closed		
4	3-position A/B/R connection		
5	3-position P/A/B connection		
B Port size			
Port	A/B port	Note 1	P/R ₁ /R ₂ port
06	Rc 1 / 8		
C Manual override			
Blank	Non-locking/locking manual override		
M3	Non-locking/locking convex type manual override		
D Electric connection			
Grommet lead wire			
Blank	Grommet lead wire (300 mm)		
C-connector (lead wire lateral)			
C	Lead wire (300 mm)		
C00	Lead wire (500 mm)		
C01	Lead wire (1000 mm)		
C02	Lead wire (2000 mm)		
C1	No lead wire (with socket)		
C2	Lead wire (300 mm)	with surge suppressor/light	
C20	Lead wire (500 mm)	with surge suppressor/light	
C21	Lead wire (1000 mm)	with surge suppressor/light	
C22	Lead wire (2000 mm)	with surge suppressor/light	
C3	No lead wire (with socket)	with surge suppressor/light	
D-connector (lead wire upward)			
D	Lead wire (300 mm)		
D00	Lead wire (500 mm)		
D01	Lead wire (1000 mm)		
D02	Lead wire (2000 mm)		
D1	No lead wire (with socket)		
D2	Lead wire (300 mm)	with surge suppressor/light	
D20	Lead wire (500 mm)	with surge suppressor/light	
D21	Lead wire (1000 mm)	with surge suppressor/light	
D22	Lead wire (2000 mm)	with surge suppressor/light	
D3	No lead wire (with socket)	with surge suppressor/light	
A-connector (lead wire downward)			
A2	Lead wire (300 mm)	with surge suppressor/light	
A20	Lead wire (500 mm)	with surge suppressor/light	
A21	Lead wire (1000 mm)	with surge suppressor/light	
A22	Lead wire (2000 mm)	with surge suppressor/light	
A3	No lead wire (with socket)	with surge suppressor/light	
E Voltage			
3	24 VDC		
4	12 VDC		

<Example of model number>

4SB110-06-M3C2-3

Model: 4SB1 body porting type

A Solenoid position: 2-position single solenoid

B Port size : Rc1/8

C Manual override : Non-locking/locking
convex type manual overrideD Electric connection : C-connector
with lead wire (300 mm),
with surge suppressor/indicator light

E Voltage : 24 VDC

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B
(Master)

W4GA/B2

W4GB4

MN3S0
MN4S0

4TB

4L2-4/
LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/
CMFPV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0E

HNV
HSV2QV
3QV

SKH

PCD/
FS/FD

Ending

Discrete
3, 5 port pilot operated valve

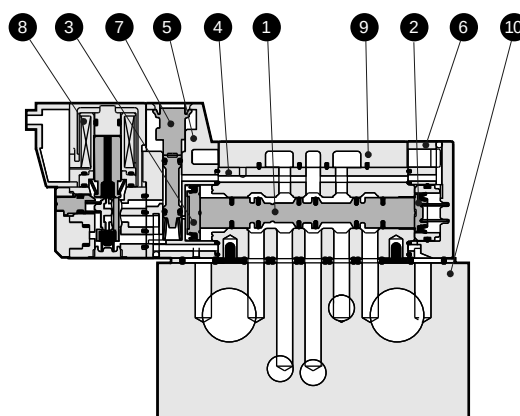
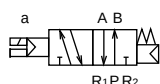
4SB1 Series

Discrete valve: Sub-plate porting

Internal structure and parts list

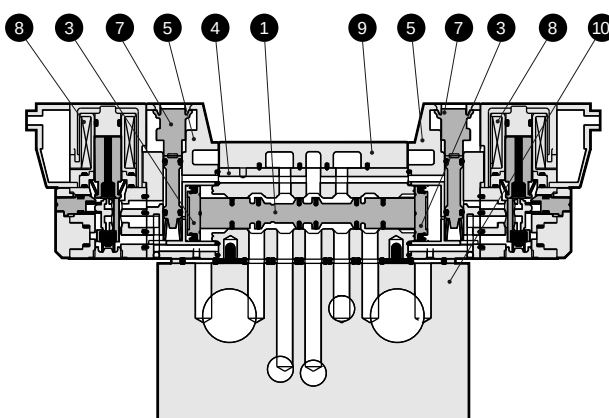
4SB110

● 2-position single solenoid



4SB120

● 2-position double solenoid



4SB130

● 3-position

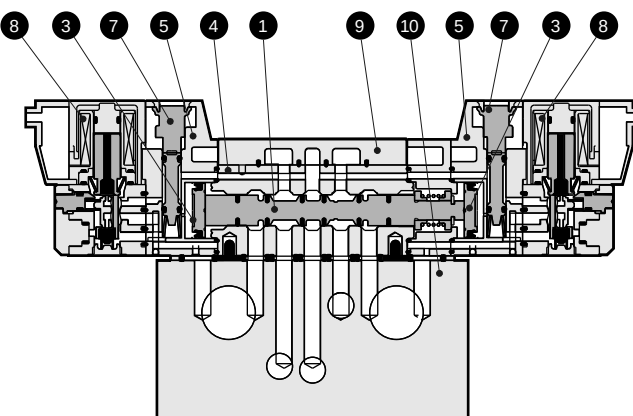
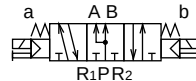
All ports closed



A/B/R connection



P/A/B connection



Main parts list

No.	Parts name	Material
1	Spool assembly	-
2	Piston S assembly	-
3	Piston D assembly	-
4	Body	Aluminum
5	Piston room	Resin
6	Cap	Resin
7	Manual override	Resin
8	Coil assembly	-
9	Masking plate	Resin
10	Sub-plate	Aluminum

Repair parts list

No.	Parts name	Model no.
8	Coil assembly	4S1- Electric connection -COIL- Voltage ↑ Blank for grommet lead wire
-	Socket assembly (lead wire 300 mm)	4S1 - SOCKET-ASSY - 300

4SB1 Series

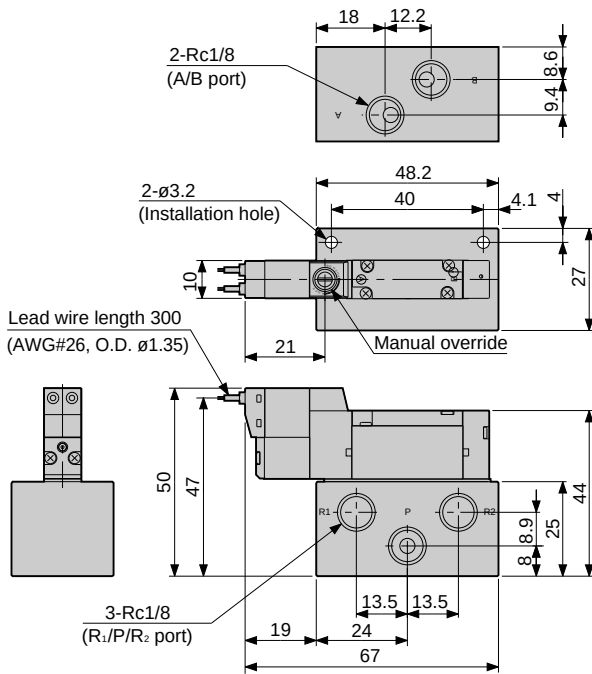
Discrete valve: Sub-plate porting

Dimensions



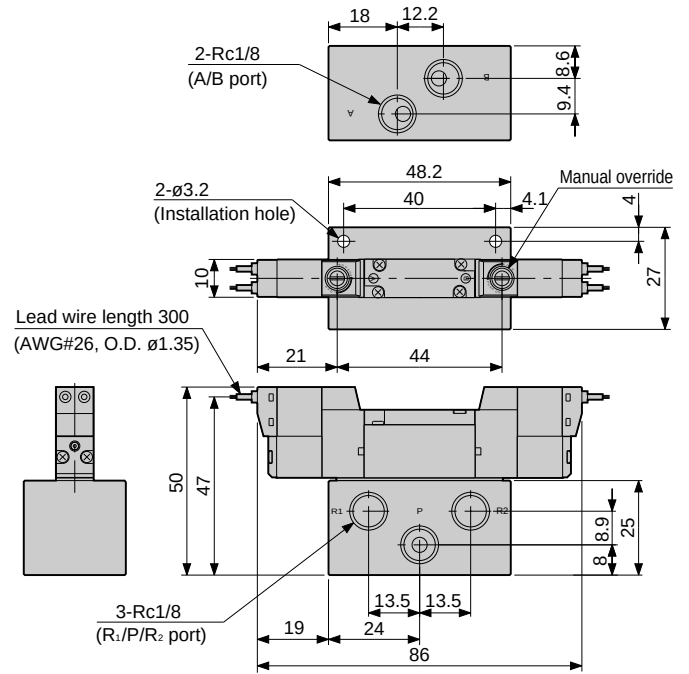
4SB110

- 2-position single solenoid: Grommet lead wire

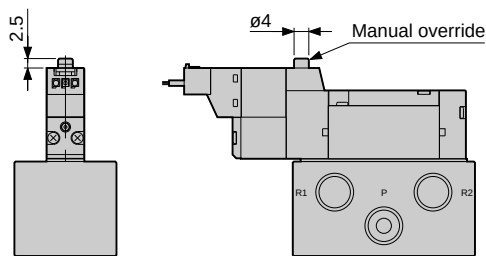


4SB120

- 2-position double solenoid: Grommet lead wire

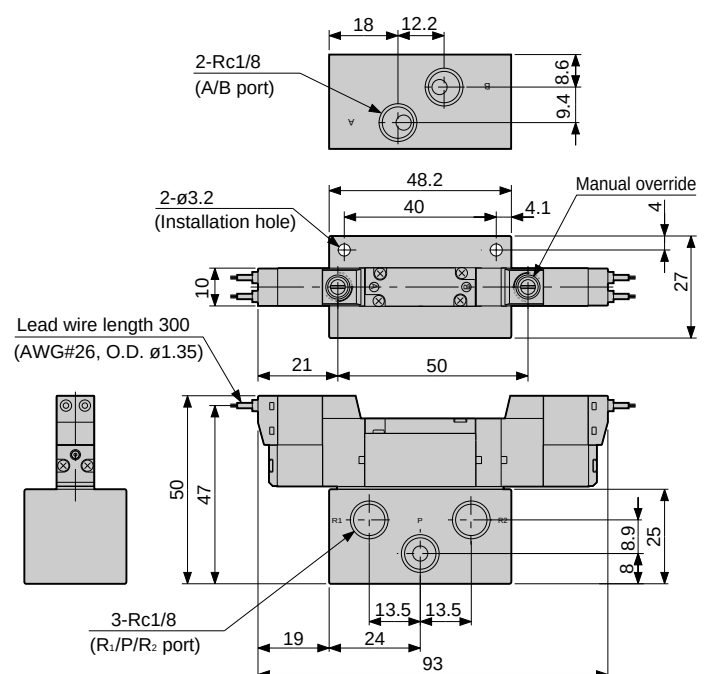


- Manual override convex type (M3)



4SB130

- 3-position: Grommet lead wire



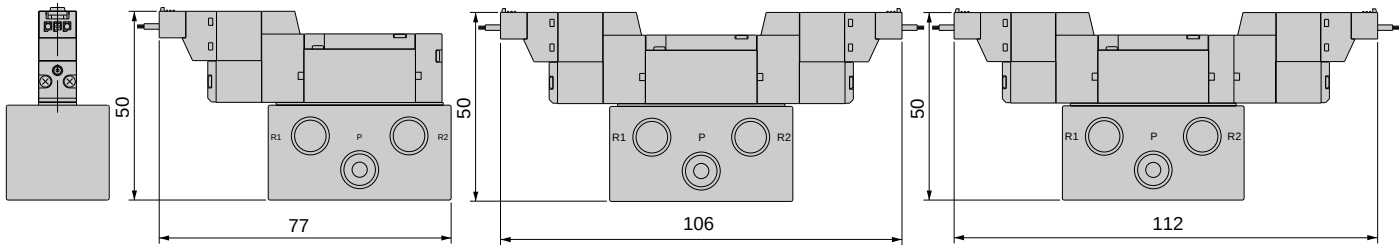
Dimensions

① 2-position single solenoid

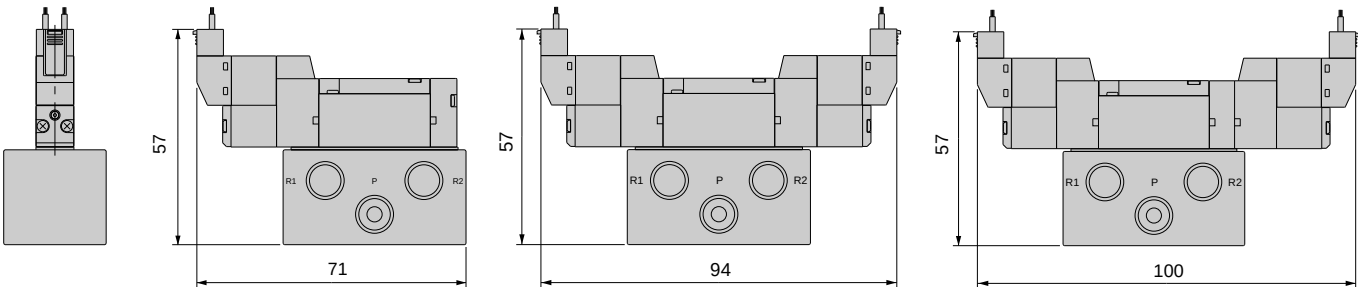
② 2-position double solenoid

③ 3-position

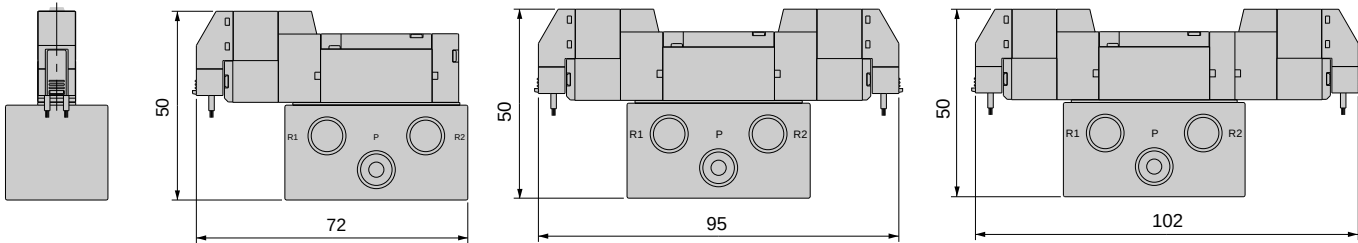
● C-connector: (C, C0*, C1, C2, C2*, C3)



● D-connector: (D, D0*, D1, D2, D2*, D3)



● A-connector: (A2, A2*, A3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Discrete
3, 5 port pilot operated valve

Discontinue

Individual wiring manifold
3, 5 port pilot operated valve small pneumatic valve
Body porting

M4SA1 Series

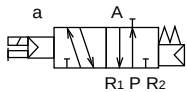
● Applicable cylinder bore size: $\varnothing 20$ to $\varnothing 40$ 

Refer to Intro 17 for details.

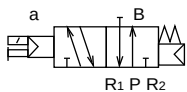


● JIS symbol

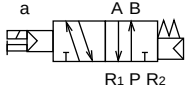
3 port valve
2-position
Single N.C. type



2-position
Single N.O. type



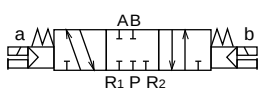
5 port valve
2-position single solenoid



2-position double solenoid



3-position
All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Manifold method	Manifold base integrated type
Manifold type	Common supply / common exhaust
Station number	2 to 24 stations
Valve type / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Port size	A/B port $\varnothing 4/\varnothing 6$ push-in joint, M5 P/R port Rc1/8
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature $^{\circ}\text{C}$	5 to 50
Fluid temperature $^{\circ}\text{C}$	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s^2	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Individual specifications

Descriptions		3SA1	4SA1
Response time	2-position	20 or less	20 or less
Note 2 ms	3-position	-	30 or less

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.

Flow characteristics

Model no.	Solenoid position	P $\rightarrow$ A/B		A/B $\rightarrow$ R	
		C ($\text{dm}^3/(\text{s}\cdot\text{bar})$)	b	C ($\text{dm}^3/(\text{s}\cdot\text{bar})$)	b
3SA1	2-position	0.83	0.24	1.04	0.24
	2-position	0.82	0.28	0.94	0.30
	3-position	All ports closed	0.59	0.37	0.37
		A/B/R connection	0.50	0.38	0.32
4SA1	3-position	P/A/B connection	0.86	0.30	0.59
					0.35

Note 3: Effective sectional area S and sonic conductance C is converted as $S \approx 5.0 \times C$.

1	2	3	4
2-position single N.C. type	2-position single N.C. type	2-position single N.O. type	Masking plate
(S10)	(S10)	(S11)	(MP)

<Mix manifold>

● How to indicate mix manifold

When selecting mix manifold (indicate "8" in "C"), indicate quantity of solenoid type after model No.

Indicate function symbols (refer to the table below) and allocation number (1 to the designated number of stations from the left) after the model No. according to the example.

Symbol	Function
S1	2-position single solenoid
S2	2-position double solenoid
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
S10	2-position single solenoid N.C. type
S11	2-position single solenoid N.O. type
MP	Masking plate

1	2	3	4	5	6	7	8
2-position single	2-position single	3-position all ports closed	2-position single	2-position double	2-position double	3-position all ports closed	Masking plate
(S1)	(S1)	(S3)	(S1)	(S2)	(S2)	(S3)	(MP)

● When using more than 10 actuators of same model No. for mix manifold, indicate the number with the symbol on the table below.

Actuator quantity	10	11	12	13	14	15	16	17	18	19
Symbol	A	B	C	D	E	F	G	H	I	J

Electric specifications

Descriptions		4SA1
Rated voltage V	DC	12, 24
Rated current	DC 12 V	0.050 (0.058)
Note 1 A	DC 24 V	0.025 (0.029)
Power consumption	DC 12 V	0.6 (0.7)
Note 1 W	DC 24 V	0.6 (0.7)
Voltage fluctuation range		$\pm 10\%$, $+10\%$ to -5% using with serial transmission
Heat proof class		B
Surge suppressor		Option
Indicator		With light (option)

Note 1: The value in () are with indicator light.

Ozone proof specifications (Ending 5)

** -Voltage - P11

S10 S11 MP
M3SA180-C6-D2-4-4-2 1 1

Remarks: (S10 = 1 to 2, S11 = 3, MP = 4)

- A Manifold method : Manifold base integrated type A
- B Valve type : 3 port valve
- C Solenoid position : Mix
- D Port size : $\varnothing 6$ push-in joint
- E Supply/exhaust port direction: Front
- F Manual override : Non-locking/locking manual override
- G Electric connection: With D-connector lead wire (300 mm), with surge suppressor and indicator light
- H Station number : 4 stations
- I Voltage : 12 VDC

S1 S2 S3 S4 S5 S10 S11 MP
M4SA180-C6-M3D2-8-4-3 2 2 0 0 0 0 1

Remarks: (S1 = 1 to 2, 4, S2 = 5 to 6, S3 = 3, 7, MP = 8)

- A Manifold method : Manifold base integrated type
- B Valve type : 5 port valve
- C Solenoid position : Mix
- D Port size : $\varnothing 6$ push-in joint
- E Supply/exhaust port direction: Front
- F Manual override : Non-locking/locking convex type manual override
- G Electric connection: With D-connector lead wire (300 mm), with surge suppressor and indicator light
- H Station number : 8 stations
- I Voltage : 12 VDC

How to order individual wiring manifold

- Discrete solenoid valve for manifold

4 SA1 1 9 - C6 — M3 D2 — 4 * Gasket, set screw

- Individual wiring manifold

M D 4 SA1 8 0 - C6 - M3 D2 - 8 - 4 - 3 2 2 0 0 0 0 1

Model no.

Constant

When selecting the mixed manifold, indicate the quantity for each valve function. Refer to page 746.

Model no.	
Manifold	Discrete
M3SA11	3SA11
M4SA11	4SA11
M3SA11	3SA11
M4SA11	4SA11

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B

(Master)

W4GA/B2

W4GB4

MN3S0

MN4S0

4TB

4L2-4/

LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/

CMF

PV5/

CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/

NVP

4F*0E

HNV

HSV

2QV

3QV

SKH

PCD/

FS/FD

Ending

Individual wiring manifold

3, 5 port pilot operated valve

3, 5 port pilot operated valve

3, 5 port pilot operated valve

3, 5 port pilot operated valve

3, 5 port pilot operated valve

3, 5 port pilot operated valve

A Manifold method

B Valve type

C Solenoid position

D Port size

E Supply / exhaust port direction
Note 3

F Manual override

G Electric connection

* Refer to page 732 for the circuit diagram of the type with surge suppressor and light.

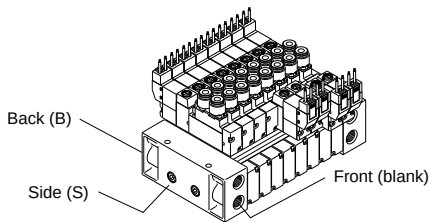
Note on model no. selection

Note 1: For A/B port with filter (foreign matter mixture prevention), indicate F after port size symbol. (Option)

Note 2: When mix joint, the symbol should be CX.

In this case, manifold specifications must be submitted.

Note 3: Facing to b solenoid side (when single, cap side), decide supply and exhaust port direction.



The figure above indicates front piping. Supply and exhaust block is both sides attached for an individual wiring manifold.

<Example of model number>

M4SA110-C6S-5-3

- A Manifold method : Manifold base integrated type
 B Valve type : 5 port valve
 C Solenoid position : 2-position single solenoid
 D Port size : ø6 push-in joint
 E Supply/exhaust port direction : Side
 F Manual override : Non-locking/locking manual override
 G Electric connection: Grommet lead wire
 H Station number : 5 stations
 I Voltage : 24 VDC

Manifold specification sheet is required. Refer to page 773.

	Valve type and solenoid position	Port size
1	1 type	1 type
2	Mix (8)	1 type
3	1 type	Mix (CX)
4	Mix (8)	Mix (CX)

H Station numb

I Voltage

Symbol	Descriptions			1	1	1	1	1	1
A	Blank	Manifold base integrated type			●	●			
	D	Manifold base integrated type DIN rail mount					●	●	
B	3	3 port valve			●		●		●
	4	4 port valve, 3, 4 port valve mix				●		●	●
C Solenoid position	1	2-position single solenoid				●		●	●
	2	2-position double solenoid				●			●
	3	3-position all ports closed				●		●	●
	4	3-position A/B/R connection				●		●	●
	5	3-position P/A/B connection				●		●	●
	1	2-position single solenoid N.C. type			●		●		●
	11	2-position single solenoid N.O. type			●		●		●
	8	Mix			●	●	●	●	
D Port size	Port	A/B port	Note 1	P/R port					
	C4	ø4 push-in joint		Rc1/8	●	●	●	●	●
	C6	ø6 push-in joint			●	●	●	●	●
	M5	M5			●	●	●	●	●
	CX	Mix	Note 2		●	●	●	●	
E	Blank	Front			●	●	●	●	
	B	Back			●	●	●		
	S	Side			●	●			
F	Blank	Non-locking/locking manual override			●	●	●	●	●
	M3	Non-locking/locking convex type manual override			●	●	●	●	●
G Electric connection	Grommet lead wire								
	Blank	Grommet lead wire (300 mm)			●	●	●	●	●
	C-connector (lead wire lateral)								
	C	Lead wire (300 mm)			●	●	●	●	●
	C00	Lead wire (500 mm)			●	●	●	●	●
	C01	Lead wire (1000 mm)			●	●	●	●	●
	C02	Lead wire (2000 mm)			●	●	●	●	●
	C1	No lead wire (with socket)			●	●	●	●	●
	C2	Lead wire (300 mm)	with surge suppressor/light		●	●	●	●	●
	C20	Lead wire (500 mm)	with surge suppressor/light		●	●	●	●	●
	C21	Lead wire (1000 mm)	with surge suppressor/light		●	●	●	●	●
	C22	Lead wire (2000 mm)	with surge suppressor/light		●	●	●	●	●
	C3	No lead wire (with socket) with surge suppressor/light			●	●	●	●	●
	D-connector (lead wire upward)								
	D	Lead wire (300 mm)			●	●	●	●	●
	D00	Lead wire (500 mm)			●	●	●	●	●
	D01	Lead wire (1000 mm)			●	●	●	●	●
	D02	Lead wire (2000 mm)			●	●	●	●	●
	D1	No lead wire (with socket)			●	●	●	●	●
	D2	Lead wire (300 mm)	with surge suppressor/light		●	●	●	●	●
	D20	Lead wire (500 mm)	with surge suppressor/light		●	●	●	●	●
	D21	Lead wire (1000 mm)	with surge suppressor/light		●	●	●	●	●
	D22	Lead wire (2000 mm)	with surge suppressor/light		●	●	●	●	●
	D3	No lead wire (with socket) with surge suppressor/light			●	●	●	●	●
	A-connector (lead wire downward)								
	A2	Lead wire (300 mm)	with surge suppressor/light		●	●	●	●	●
	A20	Lead wire (500 mm)	with surge suppressor/light		●	●	●	●	●
A21	Lead wire (1000 mm)	with surge suppressor/light		●	●	●	●	●	
A22	Lead wire (2000 mm)	with surge suppressor/light		●	●	●	●	●	
A3	No lead wire (with socket) with surge suppressor/light			●	●	●	●	●	
H	2 to 24	2 to 24 station			●	●	●	●	
I	3	24 VDC			●	●	●	●	●
	4	12 VDC			●	●	●	●	●

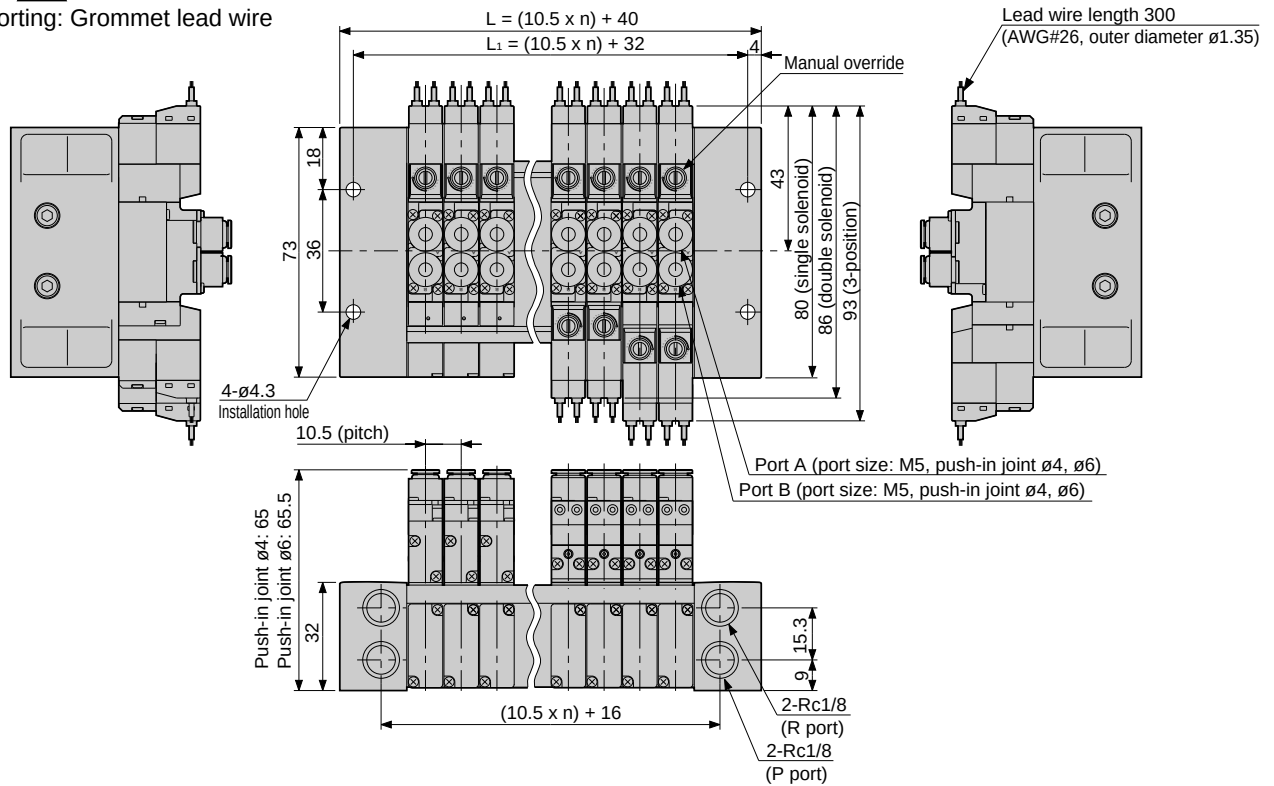
M4SA1 Series

Individual wiring manifold: Body porting

Dimensions

M4SA1

- Body porting: Grommet lead wire

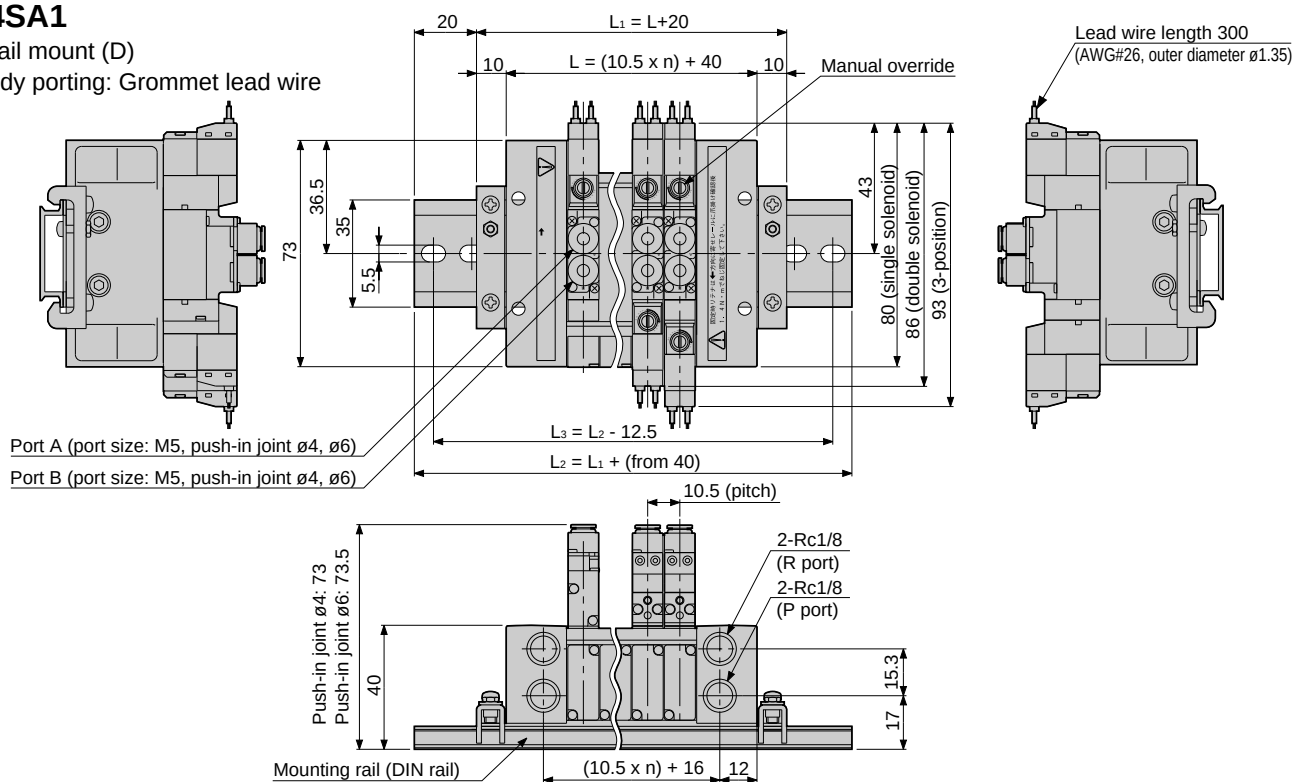


Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	61	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292
L ₁	53	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5	179	189.5	200	210.5	221	231.5	242	252.5	263	273.5	284

MD4SA1

DIN rail mount (D)

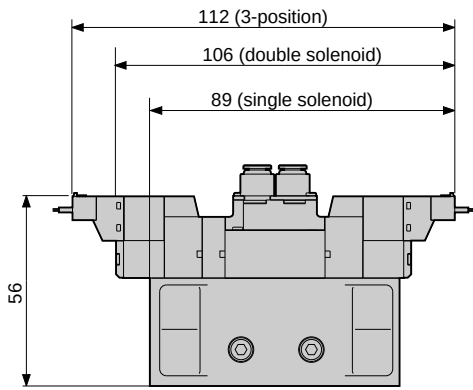
- Body porting: Grommet lead wire



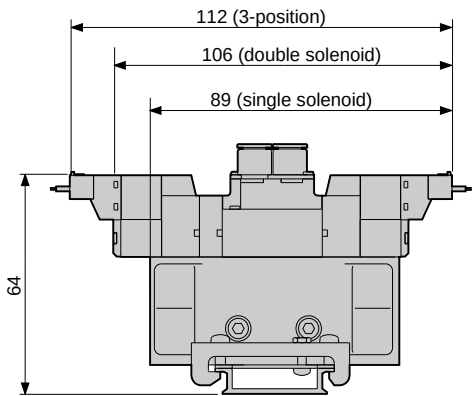
Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	61	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292
L ₁	81	91.5	102	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312
L ₂	125	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5
L ₃	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5	350

Dimensions

● C-connector: (C, C0*, C1, C2, C2*, C3)

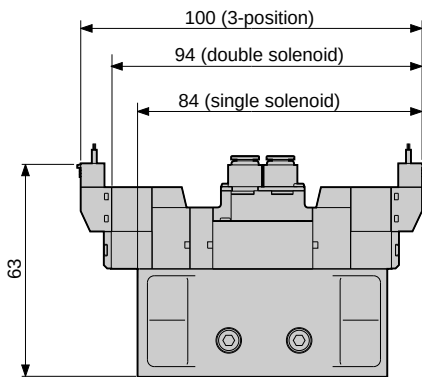


Direct mount

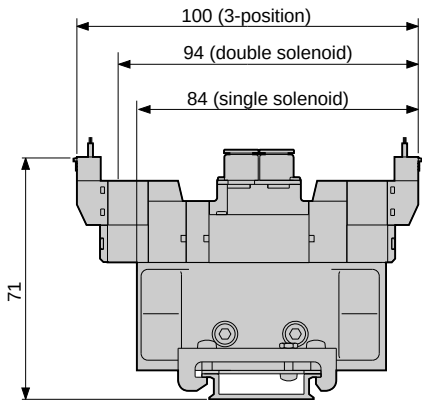


DIN rail mount (D)

● D-connector: (D, D0*, D1, D2, D2*, D3)

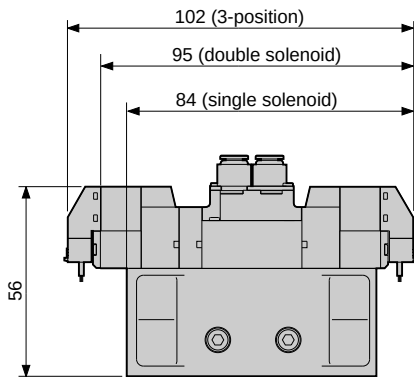


Direct mount

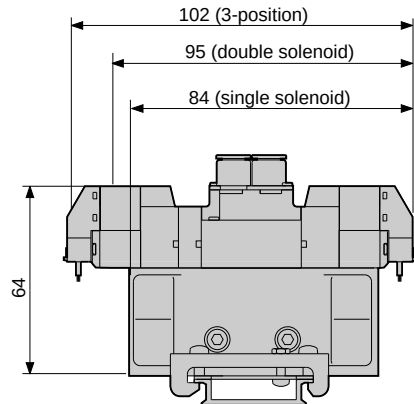


DIN rail mount (D)

● A-connector: (A2, A2*, A3)



Direct mount



DIN rail mount (D)

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Individual wiring manifold
3, 5 port pilot operated valve

Discontinue

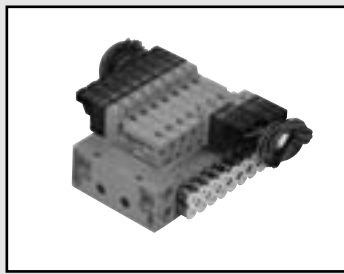
Individual wiring manifold
3, 5 port pilot operated valve small pneumatic valve
Sub-plate porting

M4SB1 Series

● Applicable cylinder bore size: $\varnothing 20$ to $\varnothing 40$



Refer to Intro 17 for details.



● JIS symbol

5 port valve

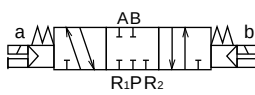
2-position single solenoid



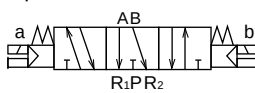
2-position double solenoid



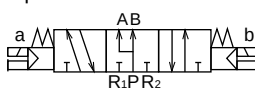
3-position All ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Manifold method	Manifold base integrated type
Manifold type	Common supply / common exhaust
Station number	2 to 24 stations
Valve type / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Port size	A/B port $\varnothing 4/\varnothing 6$ push-in joint, M5
	P/R port Rc1/8
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature $^{\circ}\text{C}$	5 to 50
Fluid temperature $^{\circ}\text{C}$	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s^2	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Electric specifications

Descriptions		4SB1
Rated voltage V	DC	12, 24
Rated current A	DC 12 V	0.050 (0.058)
	DC 24 V	0.025 (0.029)
Power consumption Note 1 W	DC 12 V	0.6 (0.7)
	DC 24 V	0.6 (0.7)
Voltage fluctuation range		$\pm 10\%$, $+10\%$ to -5% using with serial transmission
Heat proof class		B
Surge suppressor		Option
Indicator		With light (option)

Note 1: The value in () are with indicator light.

Ozone proof specifications (Ending 5)

** -Voltage - P11

Individual specifications

Descriptions		4SB1
Response time	2-position	20 or less
Note 2 ms	3-position	30 or less

Note 2: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON.
The value varies depending on pressure and quality of lubricant.

Flow characteristics

Model no.	Solenoid position	P $\rightarrow$ A/B		A/B $\rightarrow$ R	
		C ($\text{dm}^3/\text{s}\cdot\text{bar}$)	b	C ($\text{dm}^3/\text{s}\cdot\text{bar}$)	b
4SB1	2-position	0.87	0.22	0.92	0.27
	3-position	All ports closed	0.57	0.57	0.33
		A/B/R connection	0.48	0.95	0.24
		P/A/B connection	0.93	0.58	0.33

Note 3: Effective sectional area S and sonic conductance C is converted as $S \div 5.0 \times C$.

<Mix manifold>

● How to indicate mix manifold

When selecting mix manifold (indicate "8" in "C"), indicate quantity of solenoid type after model No.

Indicate function symbols (refer to the table below) and allocation number (1 to the designated number of stations from the left) after the model No. according to the example.

Symbol	Function
S1	2-position single solenoid
S2	2-position double solenoid
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
S10	Not used. Quantity must be 0.
S11	Not used. Quantity must be 0.
MP	Masking plate

1	2	3	4	5	6	7	8
2-position single (S1)	2-position single (S1)	3-position all ports closed (S3)	2-position single (S1)	2-position double (S2)	2-position double (S2)	3-position all ports closed (S3)	Masking plate (MP)

● When using more than 10 actuators of same model No. for mix manifold, indicate the number with the symbol on the table below.

Actuator quantity	10	11	12	13	14	15	16	17	18	19
Symbol	A	B	C	D	E	F	G	H	I	J

M4SB180-C6-M3D2-8-4-

S1	S2	S3	S4	S5	S10	S11	MP
3	2	2	0	0	0	0	1

Remarks: (S1 = 1 to 2, 4, S2 = 5 to 6, S3 = 3, 7, MP = 8)

- A** Manifold method : Manifold base integrated type
- B** Valve type : 5 port valve
- C** Solenoid position : Mix
- D** Port size : $\varnothing 6$ push-in joint
- E** Supply/exhaust port direction : Front
- F** Manual override : Non-locking/locking convex type manual override
- G** Electric connection : With D-connector lead wire (300 mm), with surge suppressor and indicator light
- H** Station number : 8 stations
- I** Voltage : 12 VDC

How to order individual wiring manifold

- Discrete solenoid valve for manifold

4 SB1 1 9 - 00 — M3 D2 — 4 * Gasket, set screw

- Individual wiring manifold

M D 4 SB1 8 0 - C6 - M3 D2 - 8 - 4 - 3 2 2 0 0 0 0 1

Model no.

Constant

H Station number

I Voltage

When selecting the mixed manifold, indicate the quantity for each valve function. Refer to page 750.

A Manifold method

B Valve type

C Solenoid position

D Port size

E Supply / exhaust port direction
Note 4

F Manual override

G Electric connection

* Refer to page 732 for the circuit diagram of the type with surge suppressor and light.

Note on model no. selection

- Note 1: For A/B port with filter (foreign matter mixture prevention), indicate F after port size symbol. (Option)
Note 2: When mix joint, the symbol should be CX. In this case, manifold specifications must be submitted.
Note 3: Push in joint straight type is standard. Consult with CKD about elbow type.
Note 4: Facing to b solenoid side (when single, cap side), decide supply and exhaust port direction.



The figure above indicates front piping. Supply and exhaust block is both sides attached for an individual wiring manifold.

<Example of model number>

M4SB110-C6S-5-3

- A Manifold method : Manifold base integrated type
B Valve type : 5 port valve
C Solenoid position : 2-position single solenoid
D Port size : ø6 push-in joint
E Supply/exhaust port direction : Side
F Manual override : Non-locking/locking manual override
G Electric connection : Grommet lead wire
H Station number : 5 stations
I Voltage : 24 VDC

Manifold specification sheet is required. Refer to page 773.

	Valve type and solenoid position	Port size
1	1 type	1 type
2	Mix (8)	1 type
3	1 type	Mix (CX)
4	Mix (8)	Mix (CX)

Individual wiring manifold: Sub-plate porting

Model no.

Manifold

Discrete

M4SB1

M4SB1

4SB1

Symbol	Descriptions	M4SB1	M4SB1	4SB1
A Blank	Manifold base integrated type	●		
D	Manifold base integrated type DIN rail mount		●	
B 4	4 port valve, 3, 4 port valve mix	●	●	●
C 1	2-position single solenoid	●	●	●
2	2-position double solenoid	●	●	●
3	3-position all ports closed	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
8	Mix	●	●	●
D Port	A/B port Note 1			
C4	ø4 push-in joint Note 3	●	●	●
C6	ø6 push-in joint Note 3	●	●	●
M5	M5	●	●	●
CX	Mix Note 2	●	●	●
00	No designation			●
E Blank	Front	●	●	●
B	Back	●	●	●
S	Side	●	●	●
F Blank	Non-locking/locking manual override	●	●	●
M3	Non-locking/locking convex type manual override	●	●	●
G Grommet lead wire				
Blank	Grommet lead wire (300 mm)	●	●	●
C-connector (lead wire lateral)				
C	Lead wire (300 mm)	●	●	●
C00	Lead wire (500 mm)	●	●	●
C01	Lead wire (1000 mm)	●	●	●
C02	Lead wire (2000 mm)	●	●	●
C1	No lead wire (with socket)	●	●	●
C2	Lead wire (300 mm) with surge suppressor/light	●	●	●
C20	Lead wire (500 mm) with surge suppressor/light	●	●	●
C21	Lead wire (1000 mm) with surge suppressor/light	●	●	●
C22	Lead wire (2000 mm) with surge suppressor/light	●	●	●
C3	No lead wire (with socket) with surge suppressor/light	●	●	●
D-connector (lead wire upward)				
D	Lead wire (300 mm)	●	●	●
D00	Lead wire (500 mm)	●	●	●
D01	Lead wire (1000 mm)	●	●	●
D02	Lead wire (2000 mm)	●	●	●
D1	No lead wire (with socket)	●	●	●
D2	Lead wire (300 mm) with surge suppressor/light	●	●	●
D20	Lead wire (500 mm) with surge suppressor/light	●	●	●
D21	Lead wire (1000 mm) with surge suppressor/light	●	●	●
D22	Lead wire (2000 mm) with surge suppressor/light	●	●	●
D3	No lead wire (with socket) with surge suppressor/light	●	●	●
A-connector (lead wire downward)				
A2	Lead wire (300 mm) with surge suppressor/light	●	●	●
A20	Lead wire (500 mm) with surge suppressor/light	●	●	●
A21	Lead wire (1000 mm) with surge suppressor/light	●	●	●
A22	Lead wire (2000 mm) with surge suppressor/light	●	●	●
A3	No lead wire (with socket) with surge suppressor/light	●	●	●
H 2 to 24	2 to 24 station	●	●	●
I 3	24 VDC	●	●	●
4	12 VDC	●	●	●

MN3E0

MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B

(Master)

W4GA/B2

W4GB4

MN3S0

MN4S0

4TB

4L2-4/

LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/

CMF

PV5/

CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/

NVP

4F*OE

HNV

HSV

2QV

3QV

SKH

PCD/

FS/FD

Ending

Individual wiring manifold

3, 5 port pilot operated valve

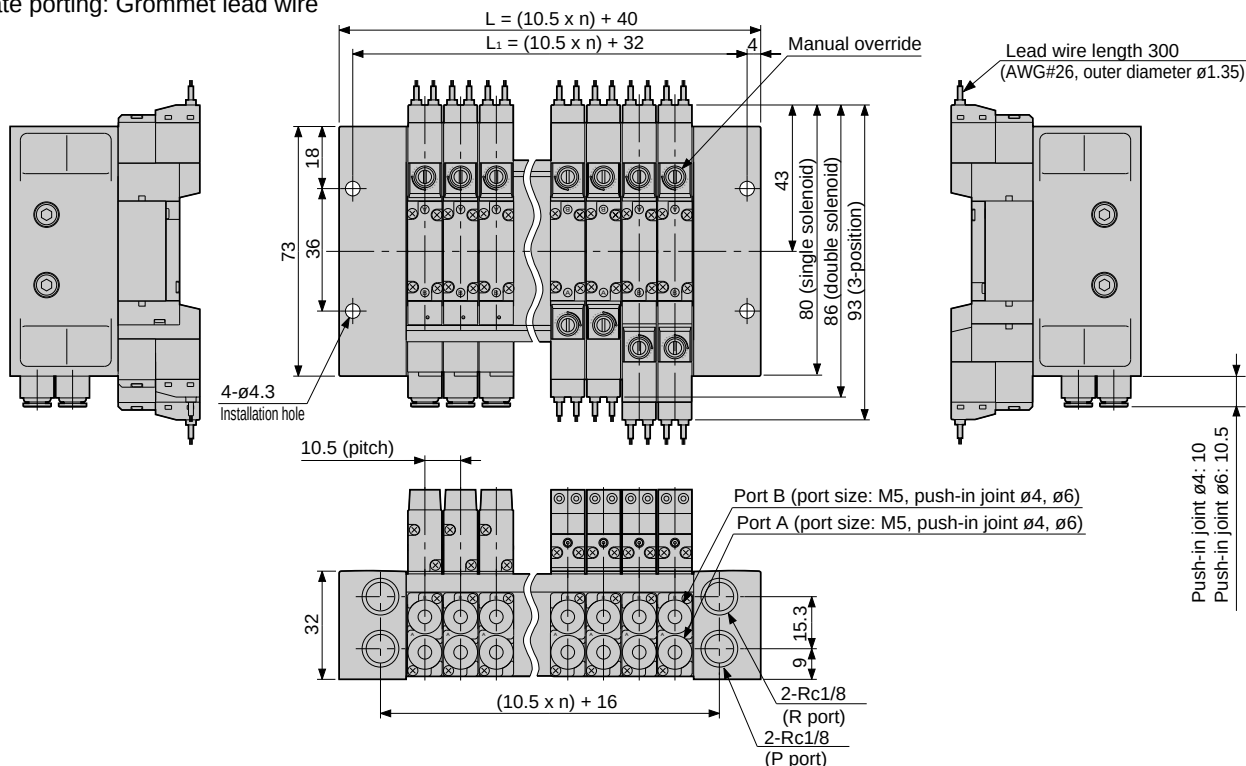
M4SB1 Series

Individual wiring manifold: Sub-plate porting

Dimensions

M4SB1

- Sub-plate porting: Grommet lead wire

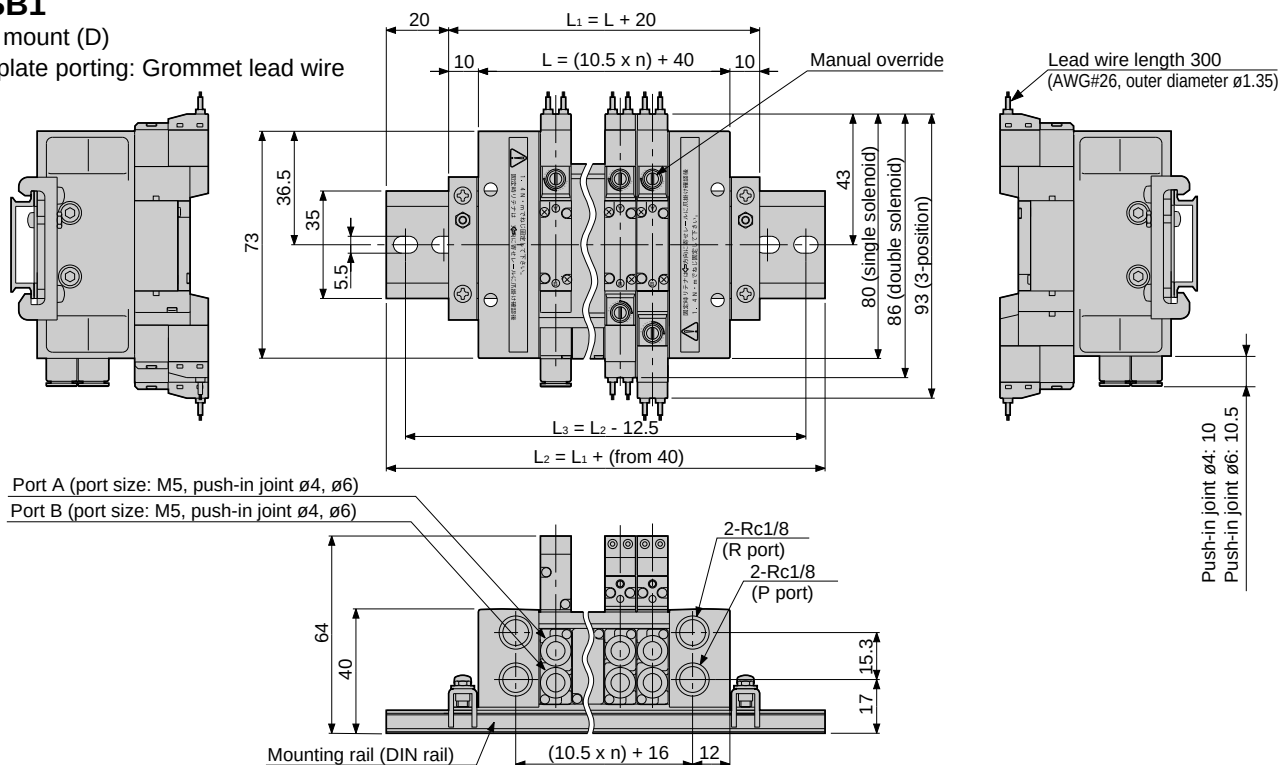


Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	61	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292
L ₁	53	63.5	74	84.5	95	105.5	116	126.5	137	147.5	158	168.5	179	189.5	200	210.5	221	231.5	242	252.5	263	273.5	284

MD4SB1

DIN rail mount (D)

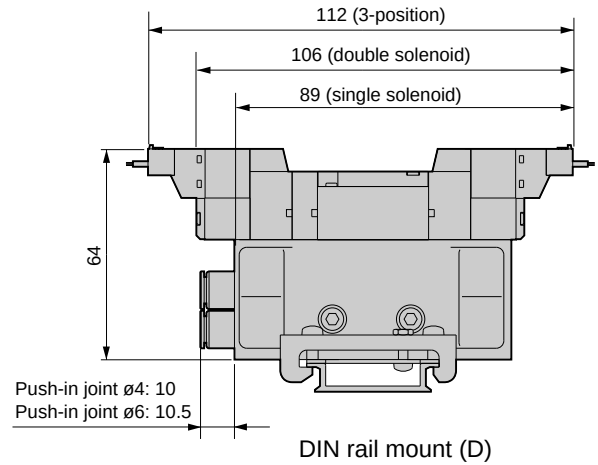
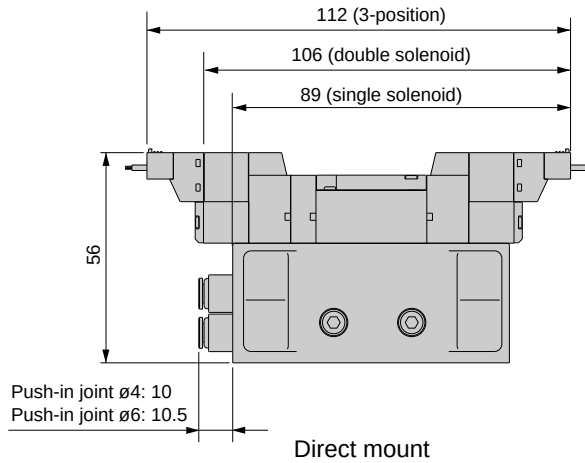
- Sub-plate porting: Grommet lead wire



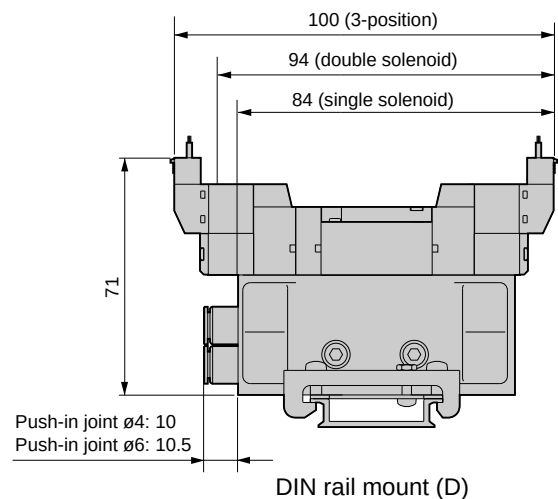
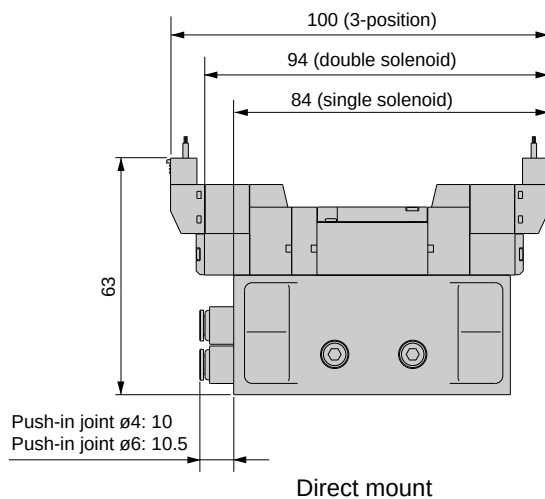
Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	61	71.5	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292
L ₁	81	91.5	102	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312
L ₂	125	137.5	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5
L ₃	112.5	125	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5	350

Dimensions

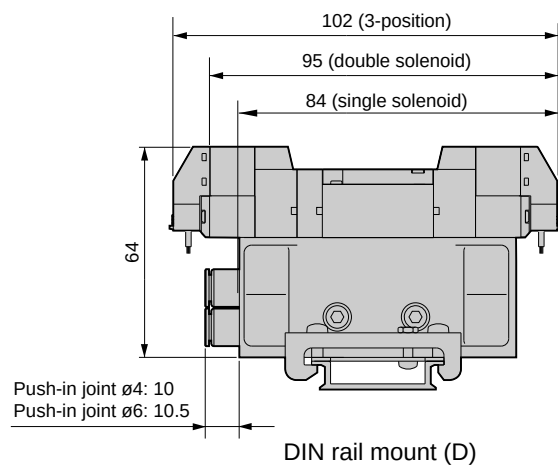
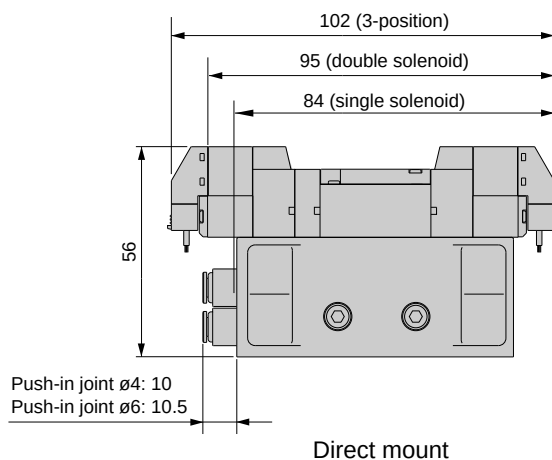
● C-connector: (C, C0*, C1, C2, C2*, C3)



● D-connector: (D, D0*, D1, D2, D2*, D3)



● A-connector: (A2, A2*, A3)



MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/ FD
Ending

Individual wiring manifold
3, 5 port pilot operated valve

Discontinue

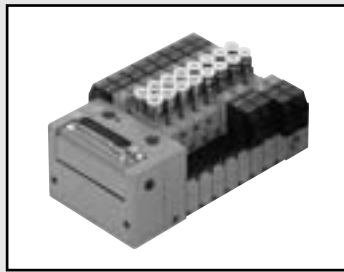
Reduced wiring manifold

3, 5 port pilot operated valve small pneumatic valve

Body porting

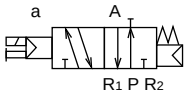
M4SA1 Series

● Applicable cylinder bore size: ø20 to ø40

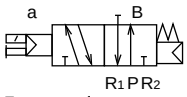


● JIS symbol

3 port valve
2-position
single N.C. type



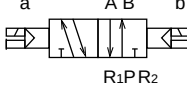
2-position
single N.O. type



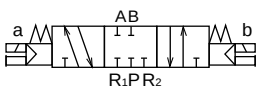
5 port valve
2-position single solenoid



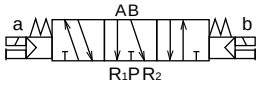
2-position double solenoid



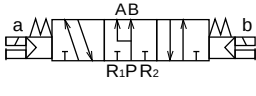
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Manifold method	Manifold base integrated type
Manifold type	Common supply / common exhaust
Station number	2 to 24 stations
Valve type / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Port size	A/B port ø4/ø6 push-in joint, M5 P/R port Rc1/8
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature °C	5 to 50
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s ²	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Individual specifications

Descriptions	3SA1	4SA1
Response time	2-position 20 or less	20 or less
Note 1 ms	3-position -	30 or less

Note 1: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.

Flow characteristics

Model no.	Solenoid position	P → A/B		A/B → R	
		C (dm ³ / (s·bar))	b	C (dm ³ / (s·bar))	b
3SA1	2-position	0.83	0.24	1.04	0.24
	2-position	0.82	0.28	0.94	0.30
	3-position	0.59	0.37	0.60	0.37
4SA1	3-position	All ports closed	0.50	0.38	1.00
		A/B/R connection	0.30	0.59	0.35
		P/A/B connection	0.86	0.30	0.59

Note 2: Effective sectional area S and sonic conductance C is converted as $S \approx 5.0 \times C$.

Manifold wiring specifications

Descriptions		Maximum station number		
		Double solenoid	Single solenoid	Mix manifold (Solenoid number)
D-sub connector type	T30 Left T30R Right	MIL standards D-sub connector (terminal number 25)	12 stations	24 stations (24 points)
Flat cable connector type 20P	T50 Left T50R Right	Pressure connector MIL-C-83503 standards conformed, pressure welding socket 20P, strain relief, flat cable 1.27 mm pitch 20 pins.	8 stations	16 stations (16 points)
Serial transmission type (with unit)	T6A0	UNIWIRESYSTEM	4 stations	8 stations (8 points)
	T6A1		8 stations	16 stations (16 points)
	T6C0	OMRON CompoBus/S	4 stations	8 stations (8 points)
	T6C1		8 stations	16 stations (16 points)
	T6E0	PLC of SUNX company each maker available	4 stations	8 stations (8 points)
	T6E1	S-LINK	8 stations	16 stations (16 points)
	T6G1	CLPA, MITSUBISHI CC-Link	8 stations	16 stations (16 points)
	T6J0		4 stations	8 stations (8 points)
	T6J1	UNIWIRESYSTEM	8 stations	16 stations (16 points)

Note 1: CC-Link is ver.1.10.

● How to indicate mix manifold

When selecting mix manifold (indicate "8" in "C"), indicate quantity of solenoid type after model No.

Indicate function symbols (refer to the table below) and allocation number (1 to the designated number of stations from the left) after the model No. according to the example.

<Mix manifold>

Symbol	Function
S1	2-position single solenoid
S2	2-position double solenoid
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
S10	2-position single solenoid N.C. type
S11	2-position single solenoid N.O. type
MP	Masking plate

1	2	3	4	5	6
2-position single	2-position single	2-position double	3-position all ports closed	Masking plate	Masking plate
(S1)	(S1)	(S2)	(S3)	(MP)	(MP)

When using more than 10 actuators of same model No. for mix manifold, indicate the number with the symbol on the table below.

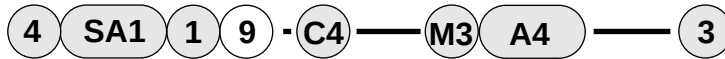
Actuator quantity	10	11	12	13	14	15	16	17	18	19
Symbol	A	B	C	D	E	F	G	H	I	J

MD4SA180-C4-M3T30-6-4-21100002
Remarks: (S1 = 1 to 2, S2 = 3, S3 = 4, MP = 5 to 6)

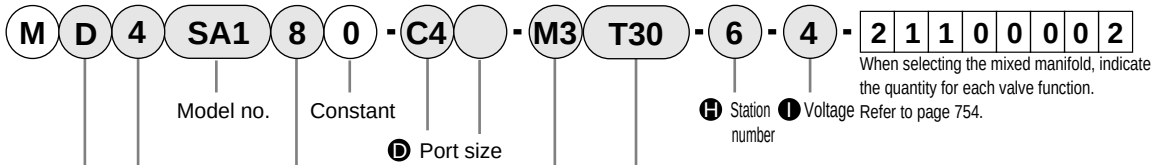
- Manifold method : Manifold base integrated type DIN rail mount
- Valve type : 5 port valve
- Solenoid position : Mix
- Port size : ø4 push-in joint
- Supply/exhaust port direction : Front
- Manual override : Non-locking/locking convex type manual override
- Electric connection: D-sub connector type left
- Station number : 6 stations
- Voltage : 12 VDC

How to order reduced wiring manifold

● Discrete solenoid valve for manifold



● Reduced wiring manifold



A Manifold method

B Valve type

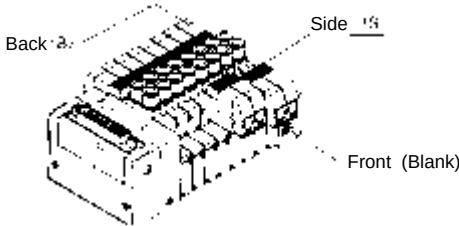
C Solenoid position

- Refer to page 765 for model no. of masking plate.
- Refer to page 767 for the models of the cable with D-sub connector.
- Refer to page 770 for the models of the cable for flat cable connector.



Note on model no. selection

- Note 1: For A/B port with filter (foreign matter mixture prevention), indicate F after port size symbol. (Option)
- Note 2: When mix joint, the symbol should be CX. In this case, manifold specifications must be submitted.
- Note 3: Facing to b solenoid side (when single, cap side), decide supply and exhaust port direction.



The figure above indicates front piping. For reduced wiring manifold, supply/exhaust block is on opposite side of wiring block.

Note 4: Serial transmission is available only for 24 VDC.

<Example of model number>

M4SA120-C6S-T30-5-3

- A Manifold method : Manifold base integrated type
- B Valve type : 5 port valve
- C Solenoid position : 2-position double solenoid
- D Port size : ø6 push-in joint
- E Supply/exhaust port direction : Side
- F Manual override : Non-locking/locking manual override
- G Electric connection : D-sub connector type left
- H Station number : 5 stations
- I Voltage : 24 VDC

Manifold specification sheet is required. Refer to page 773.

	Valve type and solenoid position	Port size
1	1 type	1 type
2	Mix (8)	1 type
3	1 type	Mix (CX)
4	Mix (8)	Mix (CX)

Reduced wiring manifold: Body porting

Symbol	Descriptions	1	1	1	1	1
A Manifold method						
Blank	Manifold base integrated type	●	●			
D	Manifold base integrated type DIN rail mount			●	●	
B Valve type						
3	3 port valve	●		●		●
4	4 port valve, 3 port valve mix		●		●	●
C Solenoid position						
1	2-position single solenoid		●		●	●
2	2-position double solenoid		●		●	●
3	3-position all ports closed		●		●	●
4	3-position A/B/R connection		●		●	●
5	3-position P/A/B connection		●		●	●
1	2-position single solenoid N.C. type	●		●		●
11	2-position single solenoid N.O. type	●		●		●
8	Mix	●	●	●	●	
D Port size						
Port	A/B port	Note 1	P/R1/R2 port			
C4	ø4 push-in joint	Rc1/8		●	●	●
C6	ø6 push-in joint			●	●	●
M5	M5			●	●	●
CX	Mix		Note 2		●	●
E Supply/exhaust port direction						
Blank	Front		●	●	●	●
B	Back		●	●	●	●
S	Side		●	●		
F Manual override						
Blank	Non-locking/locking manual override		●	●	●	●
M3	Non-locking/locking convex type manual override		●	●	●	●
G Electric connection						
T30	D-sub connector type left		●	●	●	●
T50	Flat cable connector type left		●	●	●	●
T30R	D-sub connector type right		●	●	●	●
T50R	Flat cable connector type right		●	●	●	●
T6A0	Serial transmission (UNIWIRESYSTEM 8 points)				●	●
T6A1	Serial transmission (UNIWIRESYSTEM16 points)				●	●
T6C0	Serial transmission (OMRON CompoBus/S 8 points)				●	●
T6C1	Serial transmission (OMRON CompoBus/S 16 points)				●	●
T6E0	Serial transmission (SUNX S-LINK 8 points)				●	●
T6E1	Serial transmission (SUNX S-LINK 16 points)				●	●
T6G1	Serial transmission (CC-LINK 16 points)				●	●
T6J0	Serial transmission (UNIWIRESYSTEM H 8 points)				●	●
T6J1	Serial transmission (UNIWIRESYSTEM H 16 points)				●	●
A4	A-connector (w/o socket assembly) * Lead wire downward					●
H Station number						
2 to 24	2 to 24 stations (Refer to page 754 for the maximum station number.)		●	●	●	●
I Voltage						
3	24 VDC		●	●	●	●
4	12 VDC	Note 4	●	●	●	●

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B
(Master)

W4GA/B2

W4GB4

MN3S0
MN4S0

4TB

4L2-4/
LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/
CMFPV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0E

HNV
HSV2QV
3QV

SKH

PCD/
FS/FD

Ending

Reduced wiring manifold
3, 5 port pilot operated valve

M4SA1 Series

Reduced wiring manifold: Body porting

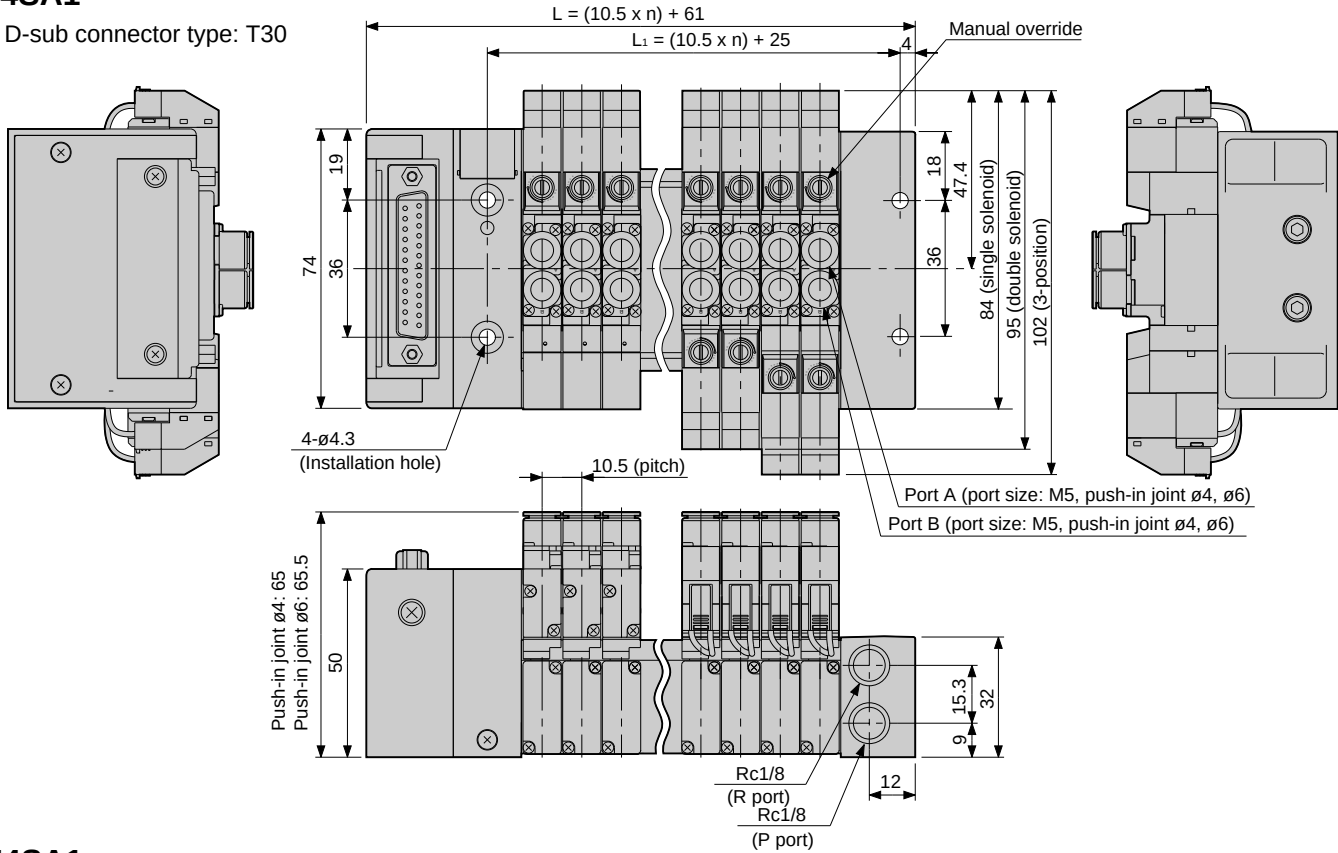
MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMFO
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV HSV
2QV 3QV
SKH
PCD/ FS/FD
Ending

Dimensions



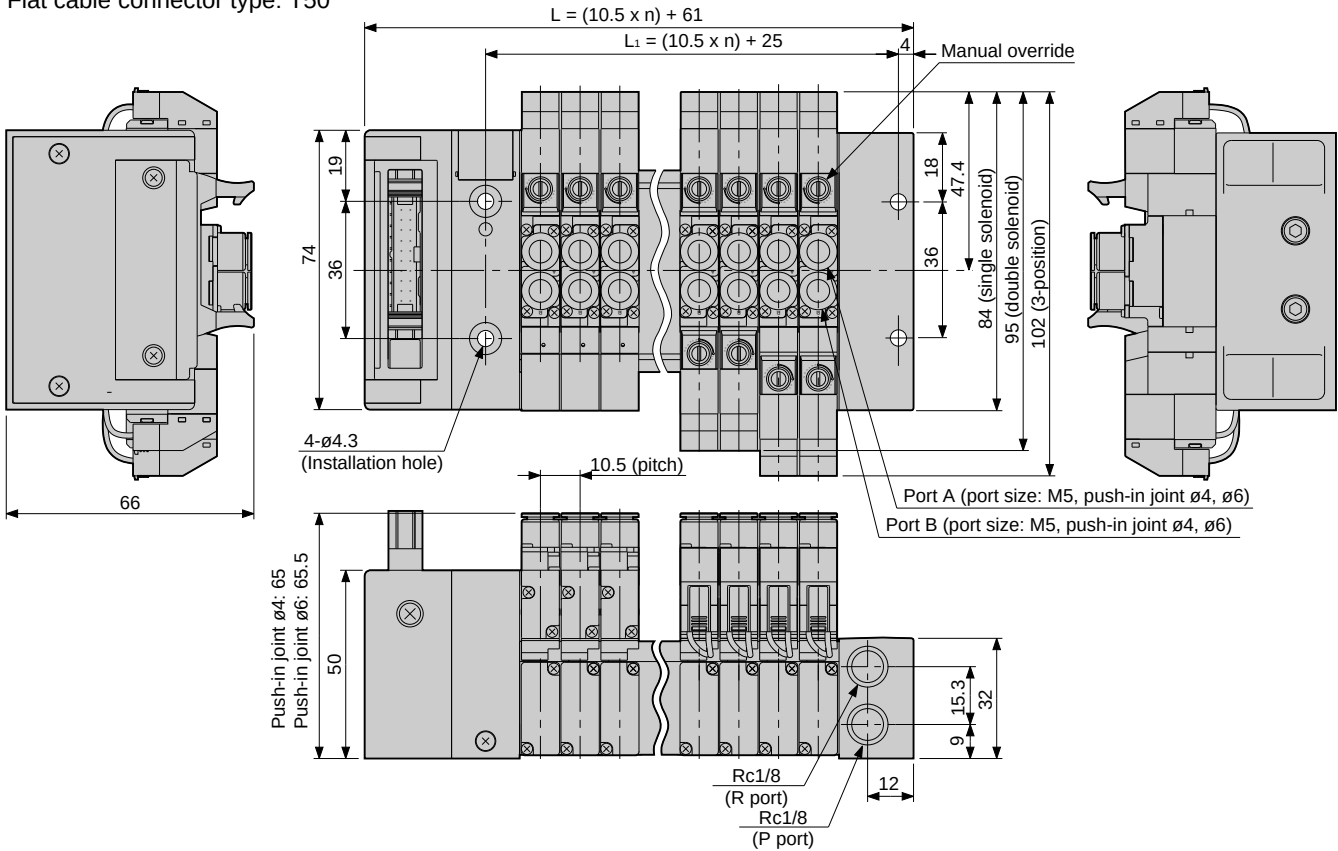
M4SA1

● D-sub connector type: T30



M4SA1

● Flat cable connector type: T50

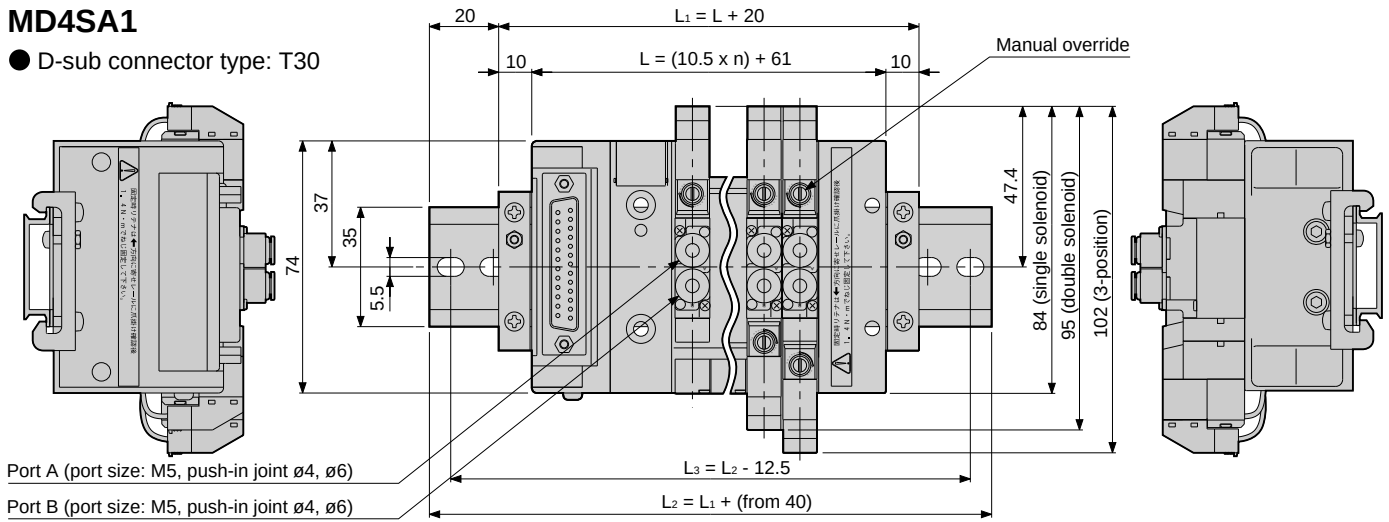


Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292	302.5	313
L1	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5	193	203.5	214	224.5	235	245.5	256	266.5	277

Dimensions

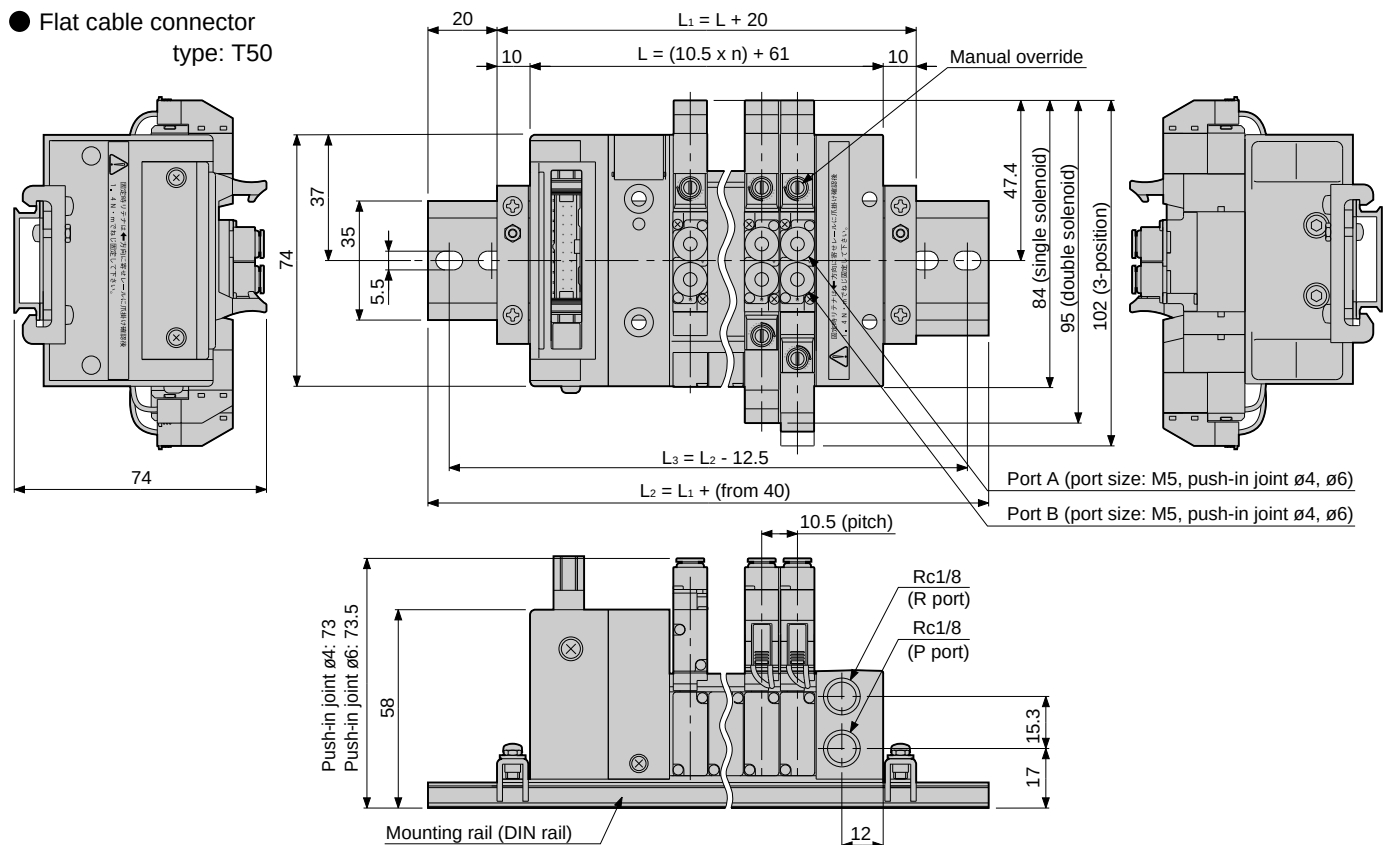
MD4SA1

- D-sub connector type: T30



MD4SA1

- Flat cable connector type: T50



Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292	302.5	313
L ₁	102	112.5	123	133.5	144	154.5	165	175.5	186	196.5	207	217.5	228	238.5	249	259.5	270	280.5	291	301.5	312	322.5	333
L ₂	150	162.5	175	175	187.5	200	212.5	225	237.5	237.5	250	262.5	275	287.5	300	300	312.5	325	337.5	350	362.5	362.5	375
L ₃	137.5	150	162.5	162.5	175	187.5	200	212.5	225	225	237.5	250	262.5	275	287.5	287.5	300	312.5	325	337.5	350	350	362.5

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Reduced wiring manifold
3, 5 port pilot operated valve

M4SA1 Series

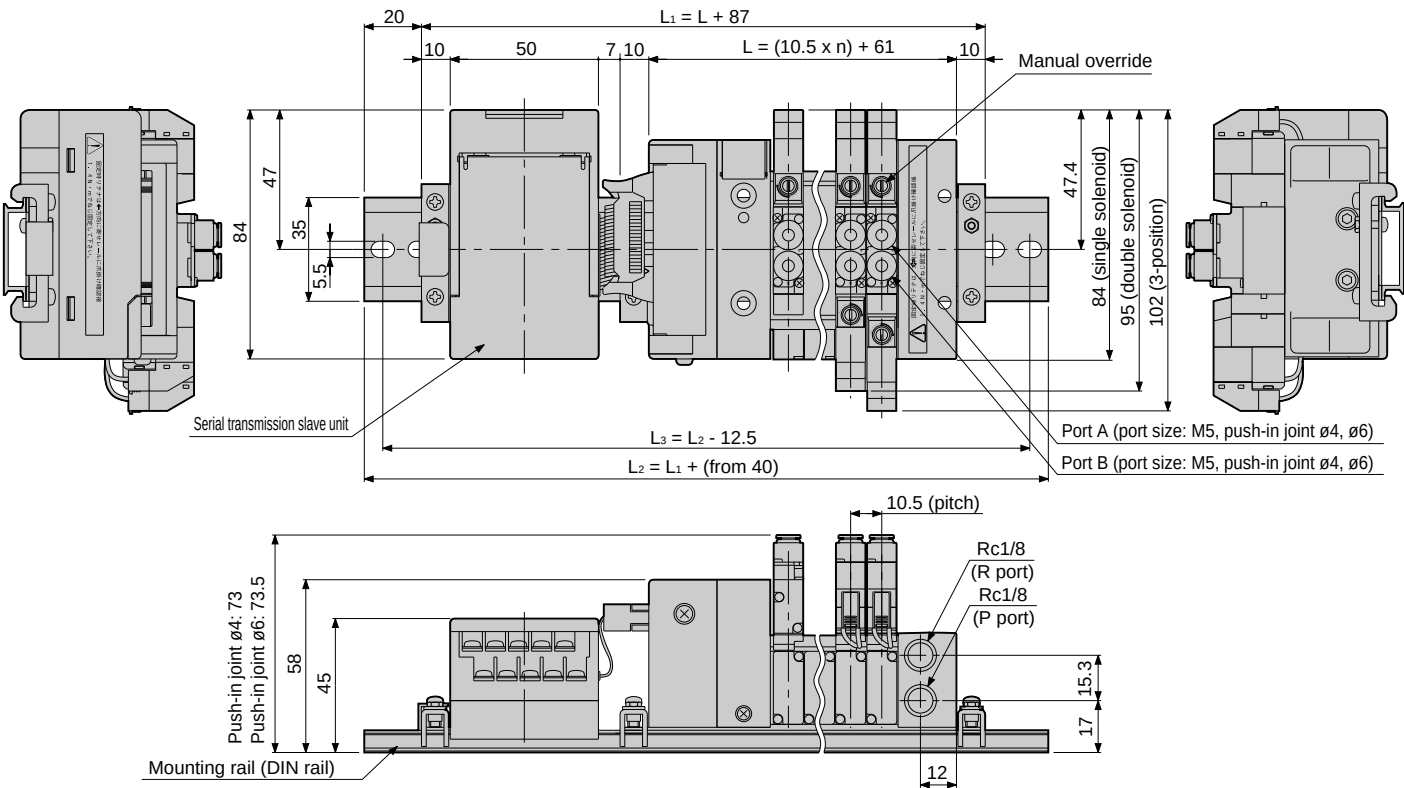
Reduced wiring manifold DIN rail mount: Body porting

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/ LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/ CMF
PV5/ CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/ NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/ FS/FD
Ending

Dimensions

MD4SA1

● Serial transmission type: (T6A0, T6A1, T6C0, T6C1, T6E0, T6E1, T6G1, T6J0, T6J1)



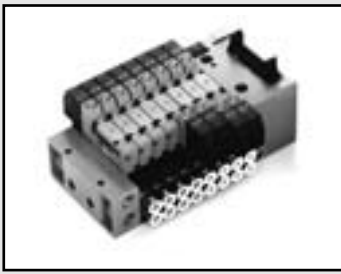
Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229
L ₁	169	179.5	190	200.5	211	221.5	232	242.5	253	263.5	274	284.5	295	305.5	316
L ₂	212.5	225	237.5	250	262.5	262.5	275	287.5	300	312.5	325	325	337.5	350	362.5
L ₃	200	212.5	225	237.5	250	250	262.5	275	287.5	300	312.5	312.5	325	337.5	350

Discontinue

Reduced wiring manifold
3, 5 port pilot operated valve small pneumatic valve
Sub-plate porting

M4SB1 Series

● Applicable cylinder bore size: ø20 to ø40



● JIS symbol

5 port valve
2-position single solenoid



2-position double solenoid



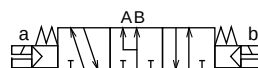
3-position
all ports closed



3-position A/B/R connection



3-position P/A/B connection



Common specifications

Descriptions	
Manifold method	Manifold base integrated type
Manifold type	Common supply / common exhaust
Station number	2 to 24 stations
Valve type / operation method	Pilot operated soft spool valve
Working fluid	Compressed air
Port size	A/B port ø4/ø6 push-in joint, M5 P/R port Rc1/8
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Withstanding pressure MPa	1.05
Ambient temperature °C	5 to 50
Fluid temperature °C	5 to 50
Lubrication	Not required
Protective structure	Dust proof
Vibration/impact m/s ²	50 or less / 300 or less
Working environment	Containing corrosive gas is impermissible.

Electric specifications

Descriptions		4SB1
Rated voltage V	DC	12, 24 (+ COM)
Rated current A	DC 12 V	0.058
	DC 24 V	0.029
Power consumption W	DC 12 V	0.7
	DC 24 V	0.7
Voltage fluctuation range		±10%
Heat proof class		B
Surge suppressor		Provided as standard
Indicator		Light provided as standard

Ozone proof specifications (Ending 5)

** - Voltage - P11

Individual specifications

Descriptions		4SB1
Response time	2-position	20 or less
Note 1 ms	3-position	30 or less

Note 1: Response time is the value when supply pressure 0.5 MPa, not lubricated and ON. The value varies depending on pressure and quality of lubricant.

Flow characteristics

Model no.	Solenoid position		P → A/B		A/B → R	
			C (dm ³ / (s·bar))	b	C (dm ³ / (s·bar))	b
4SB1	2-position		0.87	0.22	0.92	0.27
	3-position	All ports closed	0.57	0.35	0.57	0.33
		A/B/R connection	0.48	0.34	0.95	0.24
		P/A/B connection	0.93	0.25	0.58	0.33

Note 1: Effective sectional area S and sonic conductance C are converted as $S \div 5.0 \times C$.

Manifold wiring specifications

Descriptions		Maximum station number		
		Double solenoid	Single solenoid	Mix manifold (Solenoid number)
D-sub connector type	T30 Left T30R Right	MIL standards D-sub connector (terminal number 25)	12 stations	24 stations (24 points)
Flat cable connector type 20P	T50 Left T50R Right	Pressure connector MIL-C-83503 standards conformed, pressure welding socket 20P, strain relief, flat cable 1.27 mm pitch 20 pins.	8 stations	16 stations (16 points)
Serial transmission type (with unit)	T6A0	UNIWIRES SYSTEM	4 stations	8 stations (8 points)
	T6A1		8 stations	16 stations (16 points)
	T6C0	OMRON CompoBus/S	4 stations	8 stations (8 points)
	T6C1		8 stations	16 stations (16 points)
	T6E0	PLC of SUNX company each maker available	4 stations	8 stations (8 points)
	T6E1	S-LINK	8 stations	16 stations (16 points)
	T6G1	CLPA, MITSUBISHI CC-Link Note 1	8 stations	16 stations (16 points)
	T6J0 T6J1	UNIWIRES H SYSTEM	4 stations 8 stations	8 stations 16 stations (16 points)

Note 1: CC-Link is ver.1.10.

● How to indicate mix manifold

When selecting mix manifold (indicate "8" in "C"), indicate quantity of solenoid type after model No.

Indicate function symbols (refer to the table below) and allocation number (1 to the designated number of stations from the left) after the model No. according to the example.

<Mix manifold>

Symbol	Function
S1	2-position single solenoid
S2	2-position double solenoid
S3	3-position all ports closed
S4	3-position A/B/R connection
S5	3-position P/A/B connection
S10	Not used. Quantity must be 0.
S11	Not used. Quantity must be 0.
MP	Masking plate

1	2	3	4	5	6
2-position single	2-position single	2-position double	3-position all ports closed	Masking plate	Masking plate
(S1)	(S1)	(S2)	(S3)	(MP)	(MP)

When using more than 10 actuators of same model No. for mix manifold, indicate the number with the symbol on the table below.

Actuator quantity	10	11	12	13	14	15	16	17	18	19
Symbol	A	B	C	D	E	F	G	H	I	J

MD4SB180-C4-M3T30-6-4-21100002

Remarks: (S1 = 1 to 2, S2 = 3, S3 = 4, MP = 5 to 6)

- A** Manifold method : Manifold base integrated type DIN rail mount
- B** Valve type : 5 port valve
- C** Solenoid position : Mix
- D** Port size : ø4 push-in joint
- E** Supply/exhaust port direction : Front
- F** Manual override : Non-locking/locking convex type manual override
- G** Electric connection : D-sub connector type left
- H** Station number : 6 stations
- I** Voltage : 12 VDC

How to order reduced wiring manifold

- Discrete solenoid valve for manifold

4 SB1 1 9 - 00 — M3 A4 — 3

- Reduced wiring manifold

M D 4 SB1 8 0 - C4 - M3 T30 - 6 - 4 - 2 1 1 0 0 0 2

Model no. Constant Station number Voltage

When selecting the mixed manifold, indicate the quantity for each valve function. Refer to page 760.

A Manifold method

B Valve type

C Solenoid position

D Port size

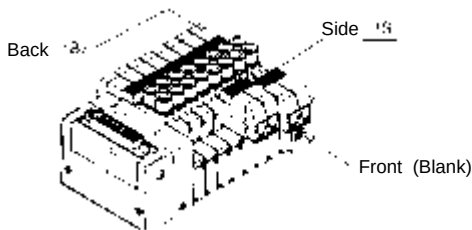
E Supply / exhaust port direction
Note 4

F Manual override

G Electric connection
* Refer to page 732 for circuit diagram.

Note on model no. selection

- Note 1: For A/B port with filter (foreign matter mixture prevention), indicate F after port size symbol. (Option)
- Note 2: When mix joint, the symbol should be CX. In this case, manifold specifications must be submitted.
- Note 3: Push in joint straight type is standard. Consult with CKD about elbow type.
- Note 4: Facing to b solenoid side (when single, cap side), decide supply and exhaust port direction.



The figure above indicates front piping. For reduced wiring manifold, supply/exhaust block is on opposite side of wiring block.

Note 5: Serial transmission is available only for 24 VDC.

<Example of model number>

M4SB120-C6S-T30-5-3

- A Manifold method : Manifold base integrated type
- B Valve type : 5 port valve
- C Solenoid position : 2-position double solenoid
- D Port size : ø6 push-in joint
- E Supply/exhaust port direction : Side
- F Manual override : Non-locking/locking manual override
- G Electric connection : D-sub connector type left
- H Station number : 5 stations
- I Voltage : 24 VDC

Manifold specification sheet is required. Refer to page 773.

	Valve type and solenoid position	Port size
1	1 type	1 type
2	Mix (8)	1 type
3	1 type	Mix (CX)
4	Mix (8)	Mix (CX)

Reduced wiring manifold: Sub-plate porting

Symbol	Descriptions	1	1	1
A Manifold method				
Blank	Manifold base integrated type	●		
D	Manifold base integrated type DIN rail mount		●	
B Valve type				
4	4 port valve, 3 port valve mix	●	●	●
C Solenoid position				
1	2-position single solenoid	●	●	●
2	2-position double solenoid	●	●	●
3	3-position all ports closed	●	●	●
4	3-position A/B/R connection	●	●	●
5	3-position P/A/B connection	●	●	●
8	Mix	●	●	
D Port size				
Port	A/B port	Note 1	P/R1/R2 port	
C4	ø4 push-in joint	Note 3	Rc1/8	●
C6	ø6 push-in joint	Note 3		●
M5	M5			●
CX	Mix	Note 2		●
00	No designation			●
E Supply/exhaust port direction				
Blank	Front		●	●
B	Back		●	●
S	Side		●	
F Manual override				
Blank	Non-locking/locking manual override		●	●
M3	Non-locking/locking convex type manual override		●	●
G Electric connection				
T30	D-sub connector type left		●	●
T50	Flat cable connector type left		●	●
T30R	D-sub connector type right		●	●
T50R	Flat cable connector type right		●	●
T6A0	Serial transmission (UNIWIRESYSTEM 8 points)			●
T6A1	Serial transmission (UNIWIRESYSTEM16 points)			●
T6C0	Serial transmission (OMRON CompoBus/S 8 points)			●
T6C1	Serial transmission (OMRON CompoBus/S 16 points)			●
T6E0	Serial transmission (SUNX S-LINK 8 points)			●
T6E1	Serial transmission (SUNX S-LINK 16 points)			●
T6G1	Serial transmission (CC-LINK 16 points)			●
T6J0	Serial transmission (UNIWIRESYSTEM H 8 points)			●
T6J1	Serial transmission (UNIWIRESYSTEM H 16 points)			●
A4	A-connector (w/o socket assembly) * Lead wire downward			●
H Station number				
2 to 24	2 to 24 stations (Refer to page 760 for the max. station number.)		●	●
I Voltage				
3	24 VDC		●	●
4	12 VDC Note 5		●	●

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B
(Master)

W4GA/B2

W4GB4

MN3S0
MN4S0

4TB

4L2-4/
LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/
CMF

PV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0E

HMV
HSV

2QV
3QV

SKH

PCD/
FS/FD

Ending

Reduced wiring manifold
3, 5 port pilot operated valve

M4SB1 Series

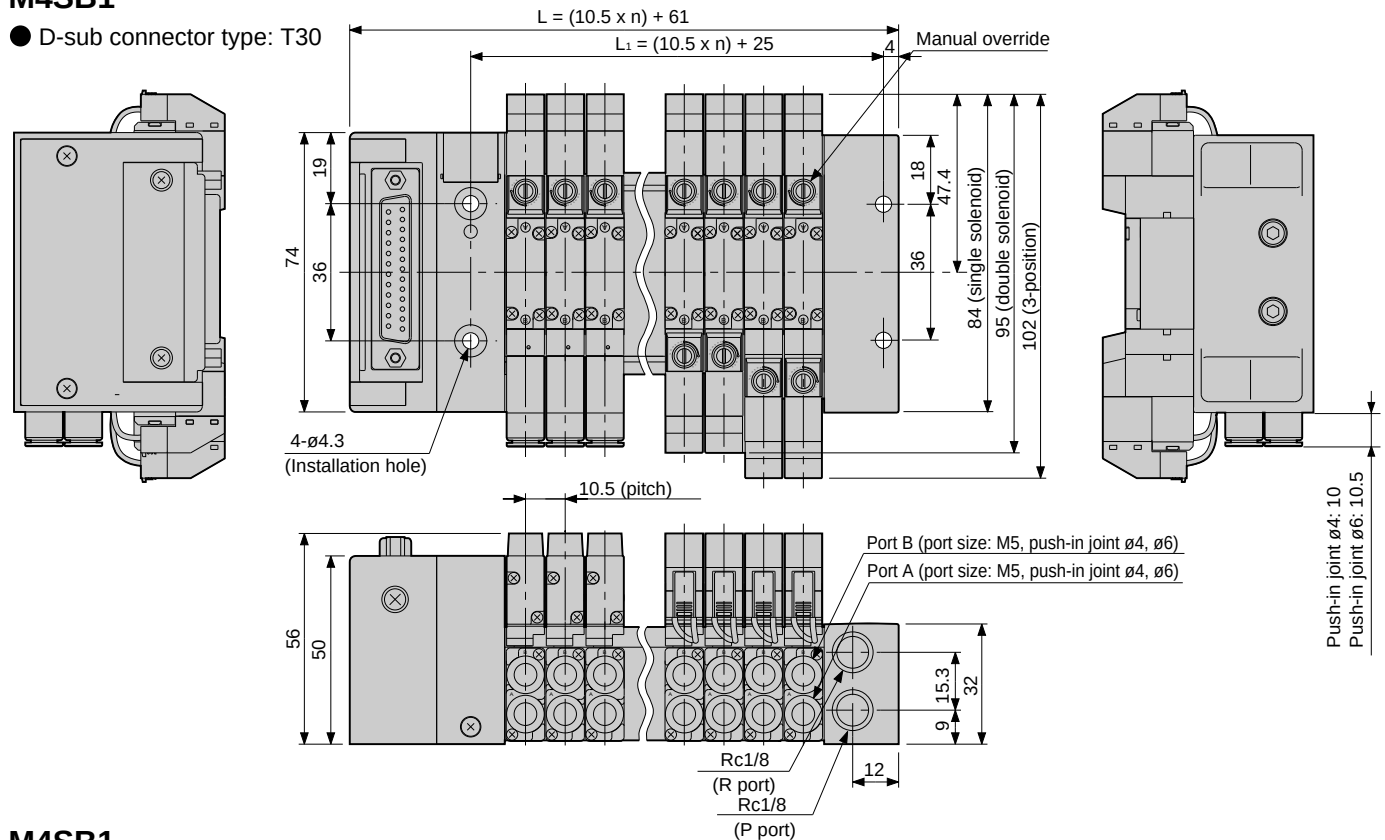
Reduced wiring manifold: Sub-plate porting

Dimensions



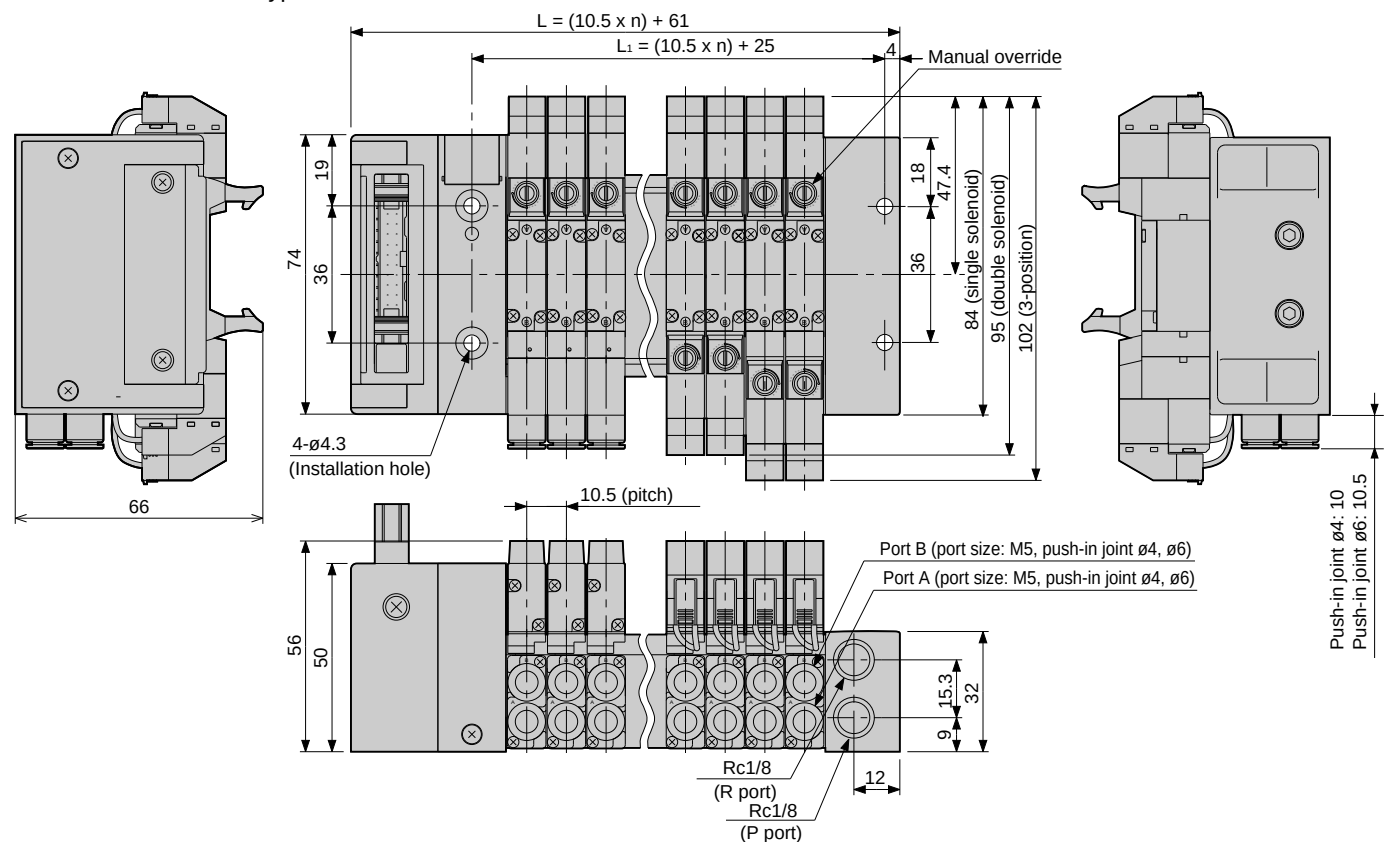
M4SB1

● D-sub connector type: T30



M4SB1

● Flat cable connector type: T50



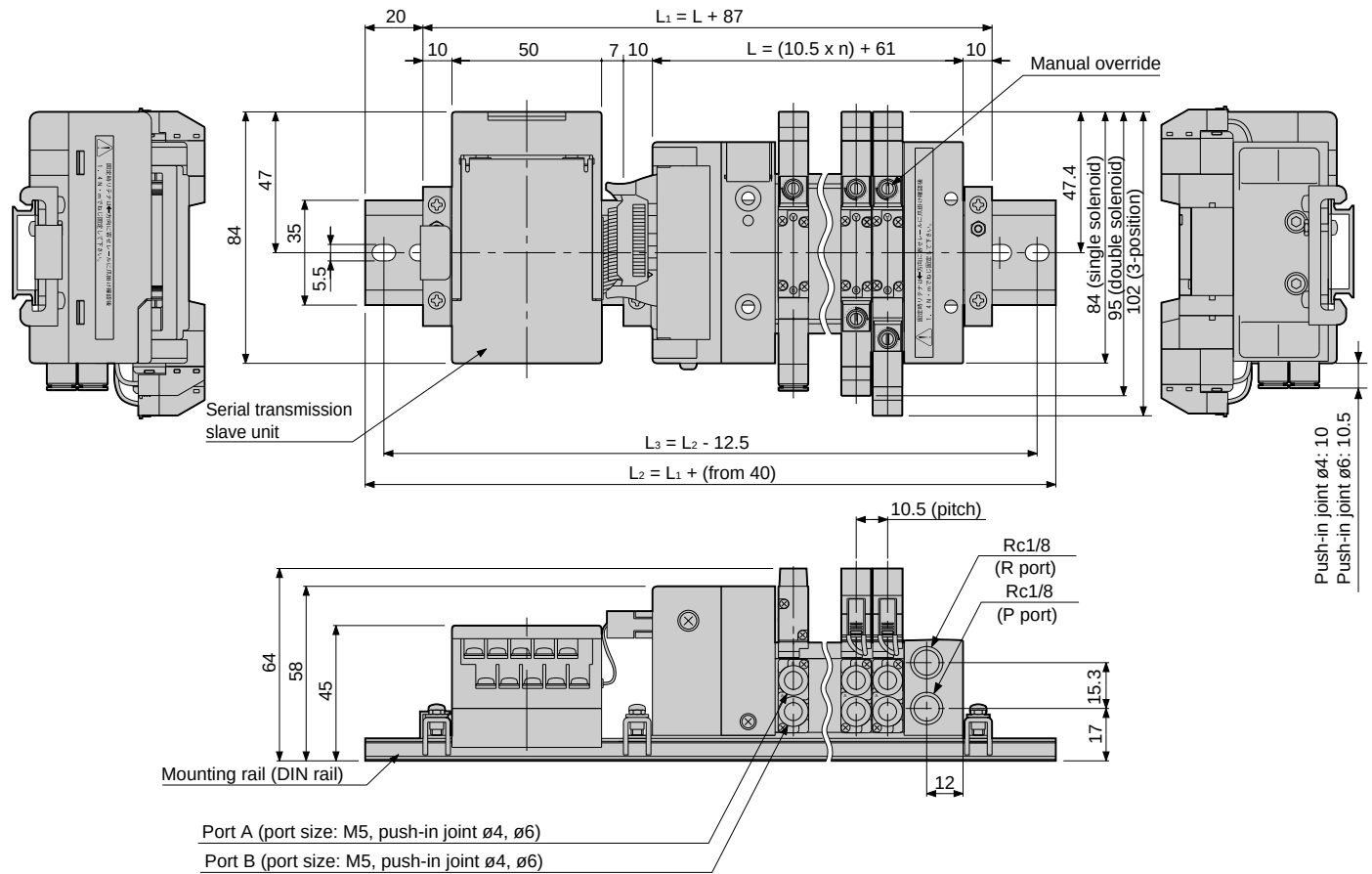
Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
L	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229	239.5	250	260.5	271	281.5	292	302.5	313
L ₁	46	56.5	67	77.5	88	98.5	109	119.5	130	140.5	151	161.5	172	182.5	193	203.5	214	224.5	235	245.5	256	266.5	277

M4SB1 Series

Reduced wiring manifold DIN rail mount: Sub-plate porting

Dimensions

- Serial transmission type: (T6A0, T6A1, T6C0, T6C1, T6E0, T6E1, T6G1, T6J0, T6J1)



Station number	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
L	82	92.5	103	113.5	124	134.5	145	155.5	166	176.5	187	197.5	208	218.5	229
L ₁	169	179.5	190	200.5	211	221.5	232	242.5	253	263.5	274	284.5	295	305.5	316
L ₂	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5		
L ₃	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350		

● How to order masking plate (gasket and set screw attached)

Body porting

M3SA110 - **MP** (3 port valve)

M4SA110 - **MP** (5 port valve)

Sub-plate porting

M4SB110 - **MP**

● How to order discrete serial transmission slave unit

4G - **OPP3** - **0A**

A Wiring method

* This slave unit is the same as 4G series.
The model no. is "4G-*.**".

Symbol	Descriptions	
A	Wiring method	
0A	T6A0	UNIWIRED SYSTEM 8 points
1A	T6A1	UNIWIRED SYSTEM 16 points
0C	T6C0	OMRON Compobus/S 8 points
1C	T6C1	OMRON Compobus/S 16 points
0E	T6E0	SUNX S-LINK 8 points
1E	T6E1	SUNX S-LINK 16 points
1G	T6G1	CC-LINK
0J	T6J0	UNIWIRED H SYSTEM 8 points
1J	T6J1	UNIWIRED H SYSTEM 16 points

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/CMF
PV5/CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/NVP
4F*0E
HMV
HSV
2QV
3QV
SKH
PCD/FS/FD
Ending

Reduced wiring manifold
3, 5 port pilot operated valve

4SA1/4SB1 Series

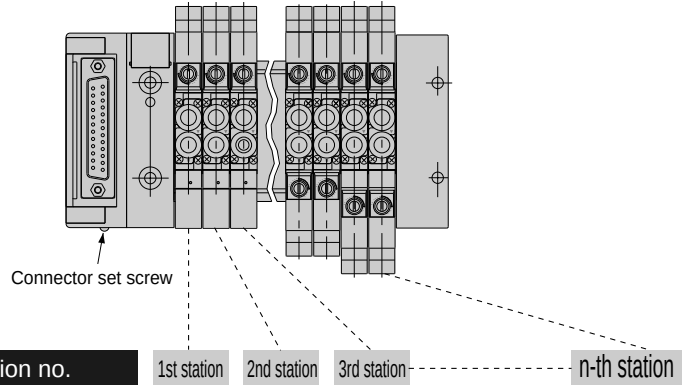
Technical data ① Notes when wiring: D-sub connector type

D-sub connector type: Wiring method T30

T30 connector

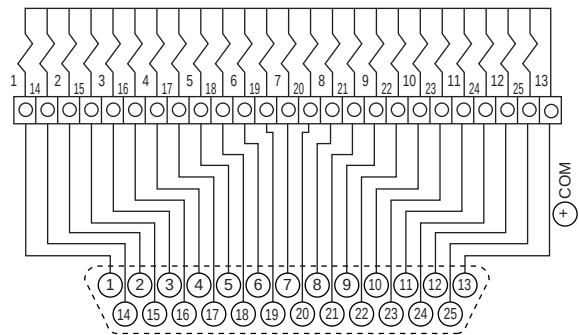
Connectors used for T30 wiring method are generally called D-sub connectors. These are commonly used for FA and OA devices. The 25P type is the connector designated in RS-232-C Standards that apply to personal computer communication functions. The manifold stations are set in order from the left with the b side solenoid (cap side for single) facing forward.

- * The connector can be turned radially or axially. After installing the solenoid valve, tighten the set screw and fix the connector. The set screw could loosen if force is applied to the connector. Set the valve so that force is not applied to the connector.



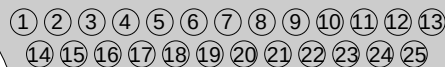
Precautions for connector type T30

- ① Signal arrays of the PLC output unit must match signal arrays of the valve side.
- ② The working power is 12/24 VDC dedicated.
- ③ The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.
- ④ This is +COM specifications.



T30 connector pin array (example)

- * 1: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.



- For single solenoid valve (available up to 24 stations)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	5a	7a	9a	11a	13a	15a	17a	19a	21a	23a	COM (+)
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	2a	4a	6a	8a	10a	12a	14a	16a	18a	20a	22a	24a	

- For double solenoid valve (available up to 12 stations)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	COM (+)
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

- For mix (single and double mixture) (available up to 24 solenoids)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	4a	5a	7a	8a	10a	11b	12b	14a	15b	17a	COM (+)
Pin No.	14	15	16	17	18	19	20	21	22	23	24	25	
Valve No.	2a	3b	4b	6a	7b	9a	11a	12a	13a	15a	16a	17b	

How to order cable with D-sub connector

N4T - **CABLE** - **D** **0** **0** - **1**

* Pneumatic valves each model

Compatible with D-sub connector T30/T31

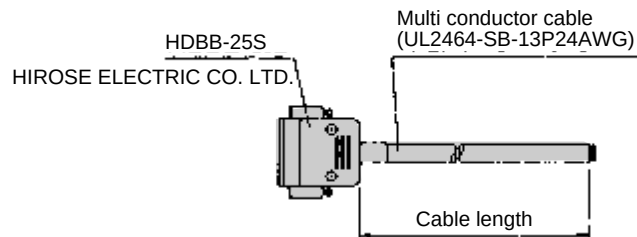
A User interface

B Cable length

Symbol	Model
A User interface	N4T
0	Cut only
1	With round terminal for M3.5 screw
B Cable length	
1	1 m
3	3 m
5	5 m

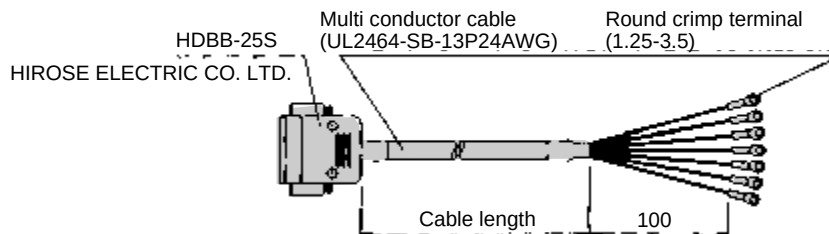
Correspondence of D-sub connector terminal No. and conductor

● N4T-CABLE-D00-⑧



D-sub connector terminal No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Conductor I.D.	Isolator color	Orange	Orange	Yellow	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow
	Type of mark	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	2 points	2 points	2 points
	Mark color	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black
D-sub connector terminal No.		14	15	16	17	18	19	20	21	22	23	24	25	
Conductor I.D.	Isolator color	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow	Yellow	Green	
	Type of mark	2 points	2 points	2 points	2 points	2 points	2 points	2 points	3 points	3 points	3 points	3 points	3 points	
	Mark color	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	

● N4T-CABLE-D01-⑧



D-sub connector terminal No.		1	2	3	4	5	6	7	8	9	10	11	12	13
Conductor I.D.	Isolator color	Orange	Orange	Yellow	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow
	Type of mark	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	1 point	2 points	2 points	2 points
	Mark color	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black
Mark tube No.		1	2	3	4	5	6	7	8	9	10	11	12	13
D-sub connector terminal No.		14	15	16	17	18	19	20	21	22	23	24	25	
Conductor I.D.	Isolator color	Yellow	Green	Green	Gray	Gray	White	White	Orange	Orange	Yellow	Yellow	Green	
	Type of mark	2 points	2 points	2 points	2 points	2 points	2 points	2 points	3 points	3 points	3 points	3 points	3 points	
	Mark color	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	Red	Black	
Mark tube No.		14	15	16	17	18	19	20	21	22	23	24	25	

* Up to 24 points can be used. Cut off any excessive points and use.

4SA1/4SB1 Series

Technical data ① Notes when wiring: Flat cable connector type

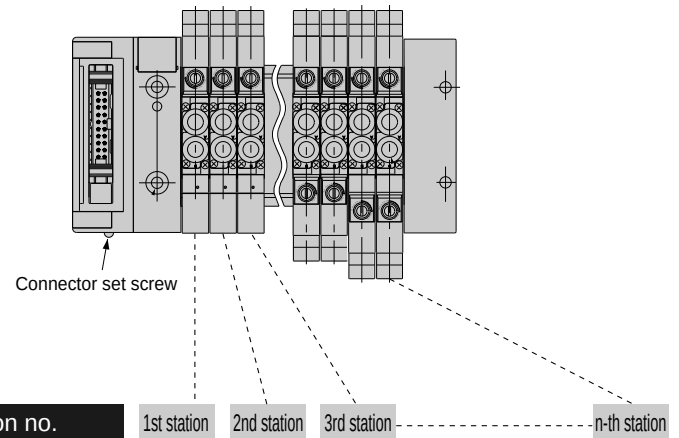
Flat cable connector type: Wiring method T50/T50R

T50/T50R connector

The connector used for T50 wiring method complies with MIL Standards (MIL-C-83503). The flat cable pressure welding makes wiring work easy. Pin no. is assigned differently based on the connector manufacturer, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The ▼ mark is the reference for both the plug and socket. The manifold stations are set in order from the left with the b side solenoid (cap side for single) facing forward.

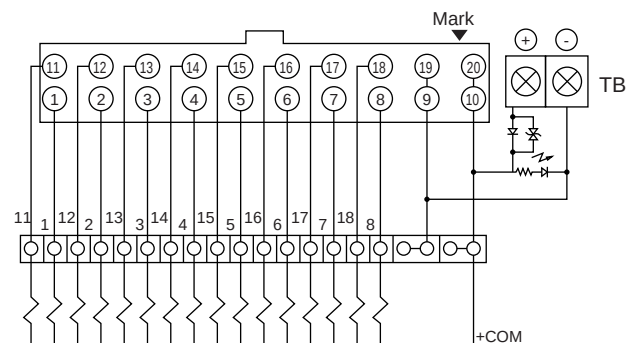
* The connector can be turned radially or axially.

After installing the solenoid valve, tighten the set screw and fix the connector. The set screw could loosen if force is applied to the connector. Set the valve so that force is not applied to the connector.



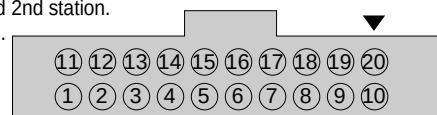
Precautions for connector type T50/T50R

- (1) The PLC output unit's signal array and valve signal array must match. Direct connections with the PLC are limited. Use the dedicated cable for each PLC manufacturer.
- (2) The working power is 12/24 VDC dedicated.
- (3) When connecting the T50/T50R type to general output unit, use the +terminal (20, 10) of the 20P connector as the +side common, and use the NPN transistor output open collector type for the drive circuit. When connecting to PNP transistor output open collector type, consult with CKD.
- (4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
- (5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



T50/T50R connector pin array (example)

- * 1: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.



- For single solenoid valve (available up to 16 station)

- For double solenoid valve (available up to 8 stations)

- For mix (single and double mixture) (available up to 16 solenoids)

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	9a	10a	11a	12a	13a	14a	15a	16a	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	-power supply	+power supply

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	-power supply	+power supply

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	7a	7b	8a	9a	10a	10b	11a	11b	-power supply	+power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	-power supply	+power supply

Serial transmission type: Wiring method

T6*serial transmission type

The slave station output number differs with the manufacturer, but connector pin numbers in the manifold and manifold solenoids correspond as shown below. Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position. Internal connectors are wired in order, so there may be some void numbers depending on the number of stations. These void outputs cannot be used for drive other than the solenoid manifold in use.

The working power is 24 VDC dedicated.

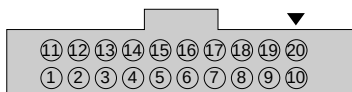
A slave unit for each communication system is used. Contact CKD for the specifications on the usable PLC models, host unit models and communication systems. (Refer to below.)

Pin no. is assigned differently based on the PLC maker, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The ▼ mark is the reference for both the plug and socket.

When valve side signal array is required other than standard array, mark a or b on the wiring specifications of manifold specification sheets.

Connector pin array of wiring method T6* (example)

- For single solenoid valve
(available up to 16 stations)



Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	9a	10a	11a	12a	13a	14a	15a	16a	-power supply	-power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	-power supply	-power supply

- For double solenoid valve
(available up to 8 stations)

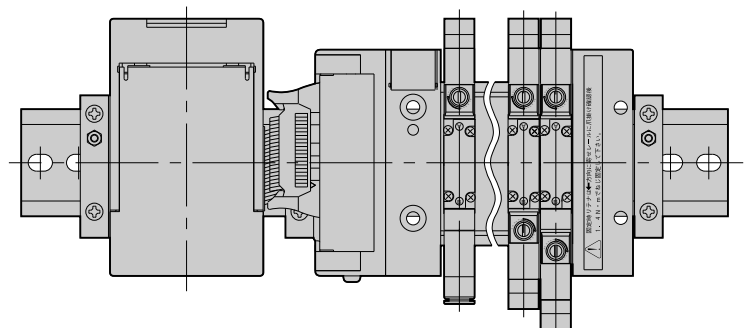
Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b	-power supply	-power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	-power supply	-power supply

- For mix (single and double mixture)
(available up to 16 solenoids)

Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	7a	7b	8a	9a	10a	10b	11a	11b	-power supply	-power supply
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	-power supply	-power supply

* 1: The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.

* The numbers in the valve No. 1a, 1b, 2a, 2b and so forth indicate the first station and 2nd station. The alphabetic characters a and b indicate the a side solenoid and the b side solenoid.



Relations between output No. and connector pin No.

- T6A1, T6C1, T6E1, T6J1

Output number	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connector pin	1	2	3	4	5	6	7	8	11	12	13	14	15	16	17	18

- T6A0, T6C0, T6E0, T6J0

Output number	0	1	2	3	4	5	6	7
Connector pin	1	2	3	4	5	6	7	8

● PLC table of serial transmission type

Model no.	PLC series	Communication system name	Host station model no.
T6A0/T6A1 UNIWIRED	Compatible with each PLC, PC and SBC Consult with CKD for details.	UNIWIRED SYSTEM	Connect to sending unit (UW-SD-120) or each UNIWIRED interfaces
T6C0/T6C1 OMRON	SYSMAC α/CS1 Series C200HS/CQM1 Series	CompoBus/S	C200HW-SRM21 CQM1-SRM21 SRM1-C01/C02
T6E0/T6E1 SUNX	Compatible with each PLC, PC and SBC Consult with CKD for details.	S-LINK	Connect to S-LINK controller or S-Link control boards
T6G1	MITSUBISHI MELSEC A Series MELSEC QnA Series MELSEC Q Series	CC-Link	AJ61BT11 AJ61QBT11 AJ1SJ61BT11 A1SJ61QBT11 QJ61BT11 (N)
	CC-Link institution (CLPA)		Connect to each maker's CC-Link master
T6J0/T6J1 UNIWIRED H SYSTEM	Compatible with each PLC, PC Consult with CKD for details.	UNIWIRED H SYSTEM	Connect to sending unit (UW-SD-120) or interface for H systems

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B
(Master)

W4GA/B2

W4GB4

MN3S0
MN4S0

4TB

4L2-4/
LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/
CMFPV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0E

HNV
HSV2QV
3QV

SKH

PCD/
FS/FD

Ending

3, 5 port pilot operated valve

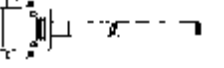
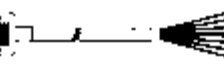
4SA1/4SB1 Series

Technical data ① Notes when wiring: Examples of wiring

Wiring specifications

Descriptions			Maximum station number		
			Double solenoid	Single solenoid	Mix manifold (Solenoid number)
D-sub connector type	T30 for left T30R for right	MIL standards D-sub connector (terminal number 25) can be connected.	12 stations	24 stations	24 points
Flat cable connector type 20P	T50 for left T50R for right	MIL-C-83563 standards conformed and pressure welding socket 20P	8 stations	16 stations	16 points

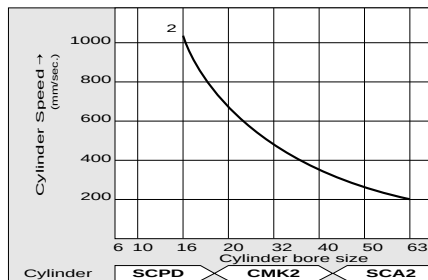
Examples of wiring (recommended combination) ● Use with the following combinations.

Wiring methods	Example of connection cable	PLC and PLC related products		
		Maker	PLC	Connection cable
Flat cable connector (T50) 		OMRON	C200H-OD215 C500-OD415CN	G79-*C
			C500-OD213	79-0*DC-*
	Interface OPC-31 	MITSUBISHI	AY42 Use within the range of power voltage 0 to +10%.	Connect 40P flat cable connector with interface OPC-31 (CKD) and 20P flat cable connector.
		MATSUSHITA ELECTRIC WORKS LTD.	AFP33484	AY15133 to 7
			AFP53487	AY15223 to 7
D-sub connector upward (T30) 				Cable with D-sub connector (Refer to page 767 for cable model and details)
				

*: Consider the PLC and flat cable voltage drop when selecting the valve drive power voltage.

Pneumatic components selection guide

The cylinder's average speed is obtained from combining the 4SA1/4SB1 Series and piping system. To calculate, the cylinder's piston rod is mounted facing upward, and the time that the piston rod starts to move the stroke is divided by the time that it moved. When the load rate is 50%, the average speed should be the approximate cylinder speed multiplied by 0.5.



Standard system components

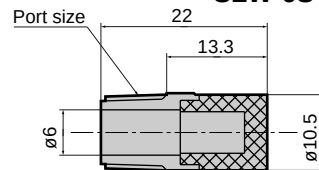
Flow control valve	Silencer	Piping (1 m)	Composite effective sectional area (mm ²)	Required flow Q /min. (ANR)
SC1-6	SLW-6S	$\phi 6 \times \phi 4$	3.2	215

Clean air system components

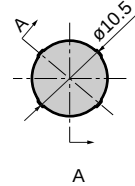
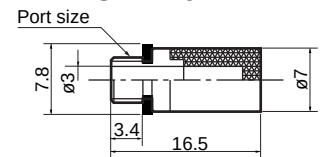
Part name	Model no.	Port size	Maximum flow rate Q /min. (ANR)
F.R.L. combination	C 1000-6	Rc1/8	450
F.R. unit	W 1000-6	Rc1/8	830
Air filter (F)	F 1000-6	Rc1/8	460
Regulator (R)	R 1000-6	Rc1/8	770
Lubricator (L)	L 1000-6	Rc1/8	550

Silencer

SLW-6S



SLM-M5

MN3E0
MN4E0

4GA/B

M4GA/B

MN4GA/B

4GA/B
(Master)

W4GA/B2

W4GB4

MN3S0
MN4S0

4TB

4L2-4/
LMF0

4SA/B0

4SA/B1

4KA/B

4F

PV5G/
CMFPV5/
CMF

3MA/B0

3PA/B

P/M/B

NP/NAP/
NVP

4F*0E

HNV
HSV2QV
3QV

SKH

PCD/
FS/FD

Ending

3, 5 port pilot operated valve

4SA1/4SB1 Series

Manifold specification sheet

How to fill out manifold specifications sheet

- Manifold model no. (example) Refer to pages 735, 741, 747, 751 for each parts details.

M D 4 S^A_B 1 8 0 - CX None - M3 T30 - 9 - 3

Manifold Solenoid Solenoid Port size Supply/exhaust Manual Electric Station Voltage
Method valve type position direction override connection number

Precautions for mix joint CX

The A/B port joint can be selected freely by indicating "CX" in the port size field.

Available cartridge joint

C4, M5

C6, plug

! M5 and C4/C6 cannot be used in one solenoid valve.

Use sub-base porting M4SB110 as 3 port valve

Mounting a plug cartridge on either the A or B port enables use as a N.O./N.C.

Solenoid position	Plug installation port
N.C. (Normally closed)	B
N.O. (Normally open)	A

Elbow type specifications

When elbow type joint is required, consult with CKD.

Cautions on reserved wire

With the T30 and T50, reserved wiring can be installed beforehand for solenoid valve expansion.

Designate the scheduled expansion position where the solenoid will change from single to double, or the base masking plate position. Indicate circle in the Wiring specification field to indicate a reservation, and indicate the a sol side/b sol side classification.

* The reserved wiring connection will be shipped protruding from the wiring cover.

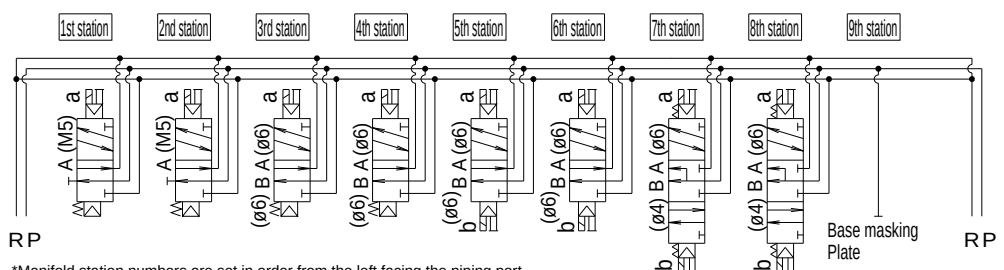
Solenoid valve model no.	Joint CX		Installation position																								Qty.		
	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24			
4S ^B 119-CX	M5	X	○	○																							2		
4S ^B 119-C6					○	○																					2		
4S ^B 129-C6								○	○																		2		
4S ^B 159-CX	C6	C4								○	○																2		
4S ^B 19-																													
3SA1 9-																													
3SA1 9-																													
Base masking plate	C6	C6									○																1		
*1 mounting rail L ₂ =	Accessories	Blanking plug				GWP6-B				Silencer				Push-in joint															
		GWP4-B				GWP6-B				SLW-6S				GWS8-6-S				2											
		Cable with D-sub connector (refer to the P. 767)												Push-in joint ø4.6 tube remover															
		N4T-CABLE-D0*.*												N4S0-EOT4-6 (standard)												Not required ☒			

*1: To designate a special rail length for DIN rail mounting, indicate the rail length in the L₂ = field.
If length is not designated, the L₂ dimension given on the external dimensions page -- individual wiring manifold: pages 748, 752, reduced wiring manifold: pages 756 to 758, 762 to 764 -- is used.

Check if the tube remover (standard accessory) is not required.

References circuit diagram

This is the circuit diagram from the manifold (example) above.



*Manifold station numbers are set in order from the left facing the piping port.

- Wiring specifications (not required for standard wiring. Complete this when designating the wiring order or expansion cables.)

Connector pin No.		Installation position																							
T30/T30R	T50/T50R/T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1	1	a																							
	14		a																						
2	3			a																					
	15			b																					
3	4				a																				
	16				b																				
4	7					a																			
	17					b																			
5	9 -power supply						a																		
	18						b																		
6	11							a																	
	19							b																	
7	13								a																
	20								b																
8	15									a															
	21									b															
9	17																								
	22																								
10	19 -power supply																								
	23																								
11	20 + (COM) power supply																								
	24																								
12																									
	25																								
13 + (COM)																									

*: When using T30 or T50 wiring, COM polarity will be + (plus).

*: When using T50 wiring, connector pins No. 9, 10, 19, and 20 are used for external input power and cannot be designated.

M4S^A_B1 manifold specification sheet

Discontinue

Issue / /

Your company name

Contact Quantity set Request date

Slip No. Order No.

Contact

Order No.

Manifold model no.

M S^A_B1 0- - - - -

Manifold Solenoid valve type Solenoid position Port size Supply/exhaust direction Manual override Electric connection Station number Voltage

Solenoid valve model no.	Joint CX		Installation position																								Qty.
	A	B	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
4S19																											
4S19																											
4S19																											
4S19																											
4S19																											
3SA19																											
3SA19																											
Base masking plate																											
*1 mounting rail L ₂ =	Accessories	Blanking plug				GWP6-B								Silencer				Push-in joint									
		GWP4-B		GWP6-B								SLW-6S				GWS8-6-S											
		Cable with D-sub connector (refer to the P. 767)												Push-in joint ø4.6 tube remover													
		N4T-CABLE-D0												N4S0-EOT4-6 (standard)										Not required			

*1: To designate a special rail length for DIN rail mounting, indicate the rail length in the L₂ = field.
If length is not designated, the L₂ dimension given on the external dimensions page -- individual wiring manifold: pages 748, 752, reduced-wiring manifold: pages 756 to 758, 762 to 764 -- is used.

Wiring specifications (not required for standard wiring. Complete this when designating the wiring order or expansion cables.)

Connector pin No.		Installation position																									
T30/T30R	T50/T50R/T6*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
1	1																										
14	2																										
2	3																										
15	4																										
3	5																										
16	6																										
4	7																										
17	8																										
5	9 -power supply																										
18	10 + (COM) power supply																										
6	11																										
19	12																										
7	13																										
20	14																										
8	15																										
21	16																										
9	17																										
22	18																										
10	19 -power supply																										
23	20 + (COM) power supply																										
11																											
24																											
12																											
25																											
13 + (COM)																											

When using T30, T50 or T6* wiring, COM polarity will be + (plus).
When using T50 or T6* wiring, connector pins No. 9, 10, 19, and 20 are used for external input power and cannot be designated.

MN3E0
MN4E0
4GA/B
M4GA/B
MN4GA/B
4GA/B (Master)
W4GA/B2
W4GB4
MN3S0
MN4S0
4TB
4L2-4/
LMF0
4SA/B0
4SA/B1
4KA/B
4F
PV5G/
CMF
PV5/
CMF
3MA/B0
3PA/B
P/M/B
NP/NAP/
NVP
4F*0E
HNV
HSV
2QV
3QV
SKH
PCD/
FS/FD
Ending

3, 5 port pilot operated valve