



Pneumatic Valves  
Catalog No. CB-023SA

Single unit  
Base piping

# W4GB2-FP1 Series

● Cylinder bore size:  $\varnothing 20$  to  $\varnothing 80$



## Common specifications

Item	W4GB2
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Degree of protection (Note1)	Dust proof/water jet proof (IP65)
Vibration resistance $m/s^2$	49 or less
Shock resistance $m/s^2$	294 or less
Atmosphere	Cannot be used in corrosive gas environments

\*1:IP65 (IEC60529[IEC529:1989-11]) standards are applied to the test.

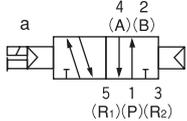
## Electrical specifications

Item	W4GB2	
Rated voltage	DC	12, 24
	AC	100
Voltage fluctuation range	$\pm 10\%$	
Holding current	24 VDC	0.025
	12 VDC	0.050
	100 VAC	0.012
Power consumption	24 VDC	0.6
	12 VDC	0.6
Apparent powerVA	100 VAC	1.2
Thermal class	B	

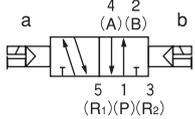
\*2: Surge suppressor and indicator are equipped as standard.

## JIS symbol

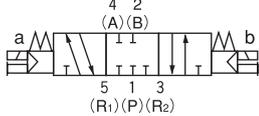
● 5-port valve  
2 position single



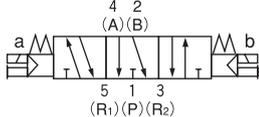
2-position double



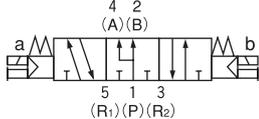
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Individual specifications

Item	W4GB2	
Port size	Port A/B	Rc1/4
	P/R Port	Rc1/4

Item	ON	OFF	
Response time ms	2-position	Single	22
		Double	26
	3-position	25	35

The response times are values with supply pressure of 0.5 MPa at 20°C and without lubrication. They depend on the pressure and the lubricant quality.

Item	Terminal block	I/O connector	
Weight g	2-position	Single	351
		Double	367
	3-position	374	431

## Flow characteristics

Model No.	Solenoid position	P → A/B		A/B → R		
		C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b	
W4GB2	2-position	2.5	0.27	2.5	0.20	
	3-position	All ports closed	2.3	0.32	2.1	0.21
		ABR connection	2.3	0.30	2.2	0.22
		PAB connection	2.4	0.02	2.3	0.19

Note: Formula to calculate sonic conductance C from effective cross-sectional area S is  $S \approx 5.0 \times C$ .

# W4GB2-FP1 Series

Single valve; base piping

## How to order

● Single unit

W4GB2 1 0 - 08 - R1 H - 3 - FP1

● Single sub-plate only

W4GB2 - SP - 08 - R1 F — FP1

● Single solenoid valve

W4GB2 1 9 - 00 — H - 3 - FP1

A Switching position Category

B Port size

C Electrical connections  
For circuit diagrams (inside the solenoid valve), refer to page 191.

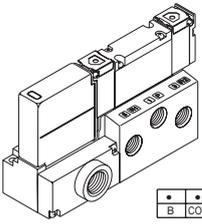
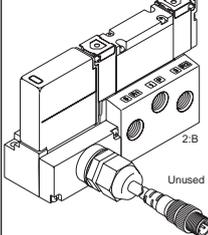
D Option

E Voltage

## ⚠ Precautions for model selection

\*1: 3-position all ports closed and PAB connection are not provided with the check valve specifications (H).

## Electrical connections

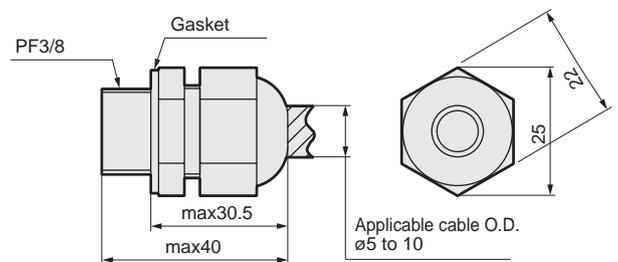
Name	Terminal block	I/O connector
Code	Blank	R1
Shape Terminal layout		

Code	Description	Single unit	Single sub-plate only	Single solenoid valve
<b>A Solenoid position</b>				
1	2 position single	●	■	●
2	2-position double	●	■	●
3	3-position all ports closed	●	■	●
4	3-position ABR connection	●	■	●
5	3-position PAB connection	●	■	●
<b>B Port size</b>				
08	Rc1/4	●	●	■
<b>C Electrical connections (lamp and surge suppressor)Standard equipment</b>				
Blank	Terminal block (with cable clamp)	●	●	●
R1	I/O connector (500 mm) (made to order)	●	●	■
<b>D Option</b>				
Blank	No option	●	●	●
M	Manual override of non-locking	●	■	●
H	With check valve *1	●	■	●
F	Port P/A/B filter integrated	●	●	■
<b>E Voltage</b>				
1	100 VAC (rectifier integrated)(Made to order) * Electrical connections: Only when Blank is selected	●	■	■
3	24 VDC	●	■	●
4	12 VDC(Made to order)	●	■	●

## Parts kit No. for terminal block

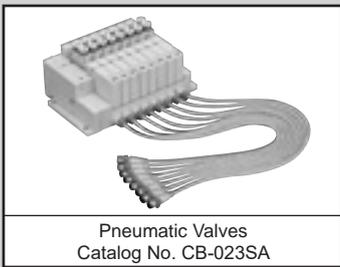
● Cable clamp (with gasket)

Model No.	Description
W4G-BMS-038GP	Used to protect cables from dust and jetting water.



(reference value)  
Body tightening torque 2.0 to 2.5 N·m  
Cable clamp tightening torque 1.5 to 2.0 N·m

Refer to the W4GB2 Series in "Pneumatic Valves (CB-023SA)" for dimensions.



Pneumatic Valves  
Catalog No. CB-023SA

Individual wiring manifold  
Body piping

# MW<sub>4</sub>GA2-R1-FP1 Series

● Cylinder bore size: ø20 to ø80



## Manifold common specifications

Item	MW3GA2/MW4GA2
Manifold	Block manifolds
Air supply and exhaust method	Common supply/common exhaust (with check valve built-in)
Pilot exhaust method	Internal pilot Main valve/pilot valve common exhaust (pilot exhaust check valve built-in)
	External pilot Main valve/pilot valve individual exhaust
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Degree of protection (*1)	Dust proof/water jet proof (IP65 or equivalent)
Vibration resistance m/s <sup>2</sup>	49 or less
Shock resistance m/s <sup>2</sup>	294 or less
Atmosphere	Cannot be used in corrosive gas environments

\*1: IP65 (IEC60529)[IEC529:1989-11] standards are applied to the test.

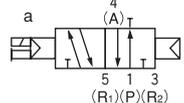
## Electrical specifications

Item	MW3GA2/MW4GA2
Rated voltage V	DC 12, 24
Voltage fluctuation range	±10%
Holding current A	24 VDC 0.025
	12 VDC 0.050
Power consumption W(*2)	24 VDC 0.6
	12 VDC 0.6
Thermal class	B

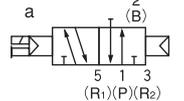
\*2: Surge suppressor and indicator are equipped as standard.

## JIS symbol

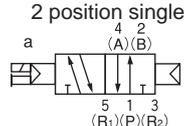
- 3-port valve  
2-position single NC



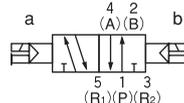
- 2-position single NO



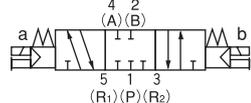
- 5-port valve  
2 position single



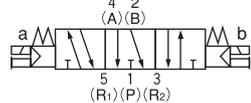
- 2-position double



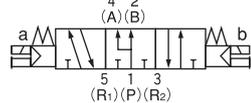
- 3-position all ports closed



- 3-position A/B/R connection



- 3-position P/A/B connection



## Individual specifications

Item	MW3GA2/MW4GA2
Max. station No.	16
Port size	Port A/B Push-in fitting ø6, ø8, Rc1/8
	P/R Port Push-in fitting ø8, ø10

Item	MW3GA2/MW4GA2	
	ON	OFF
Response time ms	2-position	Single 22
		Double 26
	3-position 25	35

The response times are values with supply pressure of 0.5 MPa at 20°C and without lubrication. They depend on the pressure and the lubricant quality.

## Flow characteristics

Model No.	Solenoid position	P → A/B		A/B → R		
		C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b	
MW3GA2	2-position	2.2	0.35	1.7	0.25	
	All ports closed	2.0	0.36	2.2	0.21	
MW4GA2	3-position	ABR connection	2.1	0.34	1.7	0.26
		PAB connection	2.3	0.35	2.3	0.27

\*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

\*2: Values of the 2-position type and ABR connection type are those with integrated check valve.

# MW<sub>4</sub>GA2-R1-FP1 Series

Individual wiring manifold; body piping

## How to order Individual wiring I/O connector

● Manifold model No.

**MW4GA2** ① 0 - **C8** - **R1** **H** **D** - ⑤ - ③ - **FP1**

● Discrete valve block with solenoid valve

**NW4GA2** ① 0 - **C8** - **R1** **H** - ③ - **FP1**

● Single solenoid valve for manifold

**W4GA2** ① 9 - **C8** - **H** - ③ - **FP1**

① Model No.

⑤ Voltage

② Solenoid position

③ Port size  
\*1

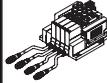
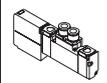
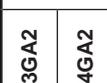
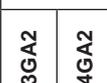
④ Wiring method  
For circuit diagrams (inside the solenoid valve), refer to page 191.

⑤ Option

⑥ Mount type

⑦ Station No.

### ⑧ Model No.

Manifold		Discrete valve block with solenoid valve		Single solenoid valve	
3-port valve	5-port valve	3-port valve	5-port valve	3-port valve	5-port valve
					
MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2

Code	Description	MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
<b>⑨ OffReplacement position</b>							
1	2 position single		●		●		●
2	2-position double		●		●		●
3	3-position all ports closed		●		●		●
4	3-position ABR connection		●		●		●
5	3-position PAB connection		●		●		●
1	2-position single normally closed	●		●		●	
11	2-position single normally open	●		●		●	
8	Mix manifold (when there are multiple solenoid positions)	●	●				
<b>⑩ Port size (port A/B)</b>							
C6	ø6 push-in fitting	●	●	●	●	●	●
C8	ø8 push-in fitting	●	●	●	●	●	●
CX	Push-in fitting mix	●	●				
06	Rc1/8	●	●	●	●	●	●
<b>⑪ Wiring method (including standard lamp and surge suppressor)</b>							
R 1	I/O connector (M12) (500 mm)	●	●	●	●		
<b>⑫ Option</b>							
Blank	No option	●	●	●	●	●	●
M	Manual override of non-locking	●	●	●	●	●	●
H	With check valve *2	●	●	●	●	●	●
F	Port A/B filter built in *3	●	●	●	●	●	●
Z1	Air supply spacer *4	●	●				
Z3	Exhaust spacer *4	●	●				
Z8	Individual air supply compatible spacer with in-stop valve spacer	●	●				
<b>⑬ Mount type</b>							
Blank	Direct mount	●	●				
D	DIN rail mount	●	●				
<b>⑭ Station No.</b>							
2	2 stations						
to	to	●	●				
16	16 stations						
<b>⑮ Voltage</b>							
3	24 VDC	●	●	●	●	●	●
4	12 VDC (Made to order)	●	●	●	●	●	●

● indicates not available.

## ⚠ Precautions for model selection

Be sure to fill in the "Manifold specifications sheet".

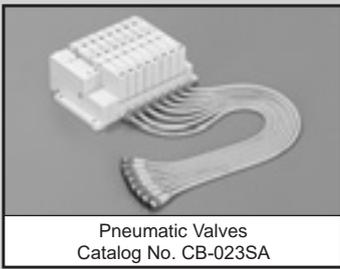
\*1: Specify the size of port P/R in the supply and exhaust block section.

\*2: Check valve (H) is not available for 3-position all ports closed and 3-position PAB connection.

\*3: A filter is built into port P.

\*4: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 218 to 219 for details.

Refer to the MW4GA2 Series in "Pneumatic Valves (CB-023SA)" for dimensions.



Pneumatic Valves  
Catalog No. CB-023SA

Individual wiring manifold  
Base side piping/base bottom piping

# MW4GB<sup>B</sup>2-R1-FP1 Series

● Cylinder bore size: ø20 to ø80



## Manifold common specifications

Item	MW4GB2	MW4GZ2
Manifold	Block manifolds	
Air supply and exhaust method	Common supply/common exhaust (with check valve built-in)	
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction	Side direction of base	Downward from base
Valve and operation	Pilot operated soft spool valve	
Working fluid	Compressed air	
Max. working pressure MPa	0.7	
Min. working pressure MPa	0.2	
Proof pressure MPa	1.05	
Ambient temperature °C	-5 to 55 (no freezing)	
Fluid temperature °C	5 to 55	
Manual override	Non-locking/locking common (standard)	
Degree of protection (*1)	Dust proof/water jet proof (IP65 or equivalent)	
Vibration resistance m/s <sup>2</sup>	49 or less	
Shock resistance m/s <sup>2</sup>	294 or less	
Atmosphere	Cannot be used in corrosive gas environments	

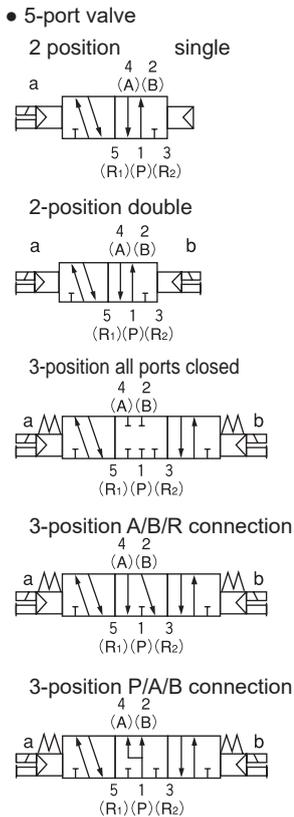
Note1: IP65 (IEC60529/[IEC529:1989-11]) standards are applied to the test.

## Electrical specifications

Item	M4GB2	
Rated voltage V DC	12, 24	
Voltage fluctuation range	±10%	
Holding current A	24 VDC	0.025
	12 VDC	0.050
Power consumption W(*2)	24 VDC	0.6
	12 VDC	0.6
Thermal class	B	

\*2: Surge suppressor and indicator are equipped as standard.

## JIS symbol



## Individual specifications

Item	MW4GB2/MW4GZ2	
Max. station No.	16	
Port size	Port A/B	Push-in fitting ø6, ø8
	P/R Port	Push-in fitting ø8, ø10

Item	MW4GB2/MW4GZ2		
		OWhen N	OFF
Response time ms	2-position	Single	22
		Double	26
	3-position		25
			35

The response times are values with supply pressure of 0.5 MPa at 20°C and without lubrication. They depend on the pressure and the lubricant quality.

## Flow characteristics

Model No.	Solenoid position	P → A/B		A/B → R		
		C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b	
MW4GB2 MW4GZ2	2-position	2.4	0.36	1.7	0.25	
	3-position	All ports closed	2.1	0.37	2.2	0.22
		ABR connection	2.2	0.35	1.7	0.25
		PAB connection	2.3	0.32	2.3	0.24

\*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

\*2: Values of the 2-position type and ABR connection type are those with integrated check valve.

# MW4G<sub>Z</sub>2-R1-FP1 Series

Individual wiring manifold; base side piping/base bottom piping

## How to order Individual wiring I/O connector

● Manifold model No.

MW4GB2 1 0-C8-R1 H D-5-3-FP1

MW4GZ2 1 0-C8-R1 H-5-3-FP1

● Discrete valve block with solenoid valve

NW4GB2 1 0-C8-R1 H-3-FP1

NW4GZ2 1 0-C8-R1 H-3-FP1

● Discrete solenoid valve for manifold built-in (common for NW4GB2/NW4GZ2 \*1)

W4GB2 1 9-00 H-3-FP1

A Model No.

B Solenoid position

H Voltage

F Mount Type

G Station No.

C Port size \*2

E Option

D Wiring method

For circuit diagrams (inside the solenoid valve), refer to page 191.

A Model No.				
Manifold	Discrete valve block with solenoid valve		Single solenoid valve	
				
MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2

Code	Description	MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2
<b>B Solenoid position</b>						
1	2 position single	●	●	●	●	●
2	2-position double	●	●	●	●	●
3	3-position all ports closed	●	●	●	●	●
4	3-position ABR connection	●	●	●	●	●
5	3-position PAB connection	●	●	●	●	●
8	Mix manifold (when there are multiple solenoid positions)	●	●			

<b>C Port size (port A/B)</b>						
C6	ø6 push-in fitting		●	●	●	●
C8	ø8 push-in fitting		●	●	●	●
CX	Push-in fitting mix		●	●		
Single side plug	Port A	Port B				
C6NC	ø6 push-in fitting	Plug	●	●	●	●
C8NC	ø8 push-in fitting		●	●	●	●
C6NO	Plug	ø6 push-in fitting	●	●	●	●
C8NO		ø8 push-in fitting	●	●	●	●

<b>D Wiring method (including standard lamp and surge suppressor)</b>						
R1	I/O connector (M12) (500 mm)		●	●	●	●

<b>E Option</b>						
Blank	No option		●	●	●	●
M	Manual override of non-locking		●	●	●	●
H	With check valve		*4	●	●	●
F	Port A/B filter built in		*5	●	●	●
Z1	Air supply spacer		*3	●	●	
Z3	Exhaust spacer		*3	●	●	
Z8	Individual air supply compatible spacer with in-stop valve spacer *3		●	●		

<b>F Mount type</b>						
Blank	Direct mount		●	●		
D	DIN rail mount		●			

<b>G Station No.</b>						
2	2 stations					
to	to		●	●		
16	16 stations					

<b>H Voltage</b>						
3	24 VDC		●	●	●	●
4	12 VDC(Made to order)		●	●	●	●

indicates not available.

## ⚠ Precautions for model selection

Be sure to fill in the "Manifold specifications sheet".

\*1: The discrete solenoid valve used for the valve block with solenoid valve NW4GZ2 is the same as W4GB2\*9.

\*2: Ports A and B plug specifications (\*NC/\*NO) are available for 2-position single only. Specify the port P/R bore size in the supply and exhaust block section.

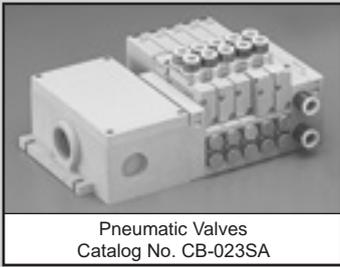
\*3: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. For details, refer to pages 218 to 219 details.

\*4: Check valve (H) is not available for 3-position all ports closed and PAB connection.

\*5: A filter is built into port P.

Refer to the MW4G<sub>Z</sub>2 Series in "Pneumatic Valves (CB-023SA)" for dimensions.

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves



Pneumatic Valves  
Catalog No. CB-023SA

Reduced wiring manifolds  
Body piping

# MW<sup>3</sup><sub>4</sub> GA2-T1, 7, 8-FP1 Series

● Cylinder bore size: ø20 to ø80



## Manifold common specifications

Item	MW3GA2/MW4GA2
Manifold	Block manifolds
Air supply and exhaust method	Common supply/common exhaust (with check valve built-in)
Pilot exhaust method	Internal pilot Main valve/pilot valve common exhaust (pilot exhaust check valve built-in)
	External pilot Main valve/pilot valve individual exhaust
Piping direction	Valve top direction
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Proof pressure MPa	1.05
Ambient temperature °C	-5 to 55 (no freezing)
Fluid temperature °C	5 to 55
Manual override	Non-locking/locking common (standard)
Degree of protection (*1)	Dust proof/water jet proof (IP65)
Resistance/Vibration m/s <sup>2</sup>	49 or less
Resistance/Impact m/s <sup>2</sup>	294 or less
Atmosphere	Cannot be used in corrosive gas environments

\*1: Tested according to the test method for IP65 (IEC60529/[IEC529:1989-11]) standards.

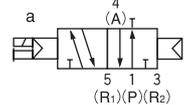
## Electrical specifications

Item	MW3GA2/MW4GA2
Rated voltage V	DC 12, 24
	AC 100
Voltage fluctuation range	±10%
Holding current A	24 VDC 0.025
	12 VDC 0.050
Power consumption W(*2)	24 VDC 0.6
	12 VDC 0.6
Apparent power VA(*3)	100 VAC 1.2
Thermal class	B

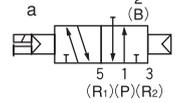
\*2: Surge suppressor and indicator are equipped as standard.  
\*3: 100 VAC and 12 VDC settings are not available for serial transmission connection specifications.

## JIS symbol

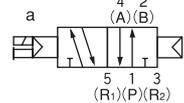
● 3-port valve  
2-position single NC



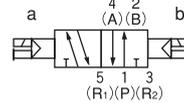
2-position single NO



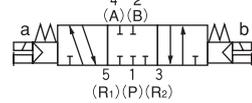
● 5-port valve  
2 position single



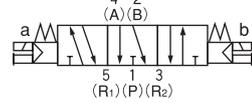
2-position double



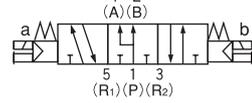
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Individual specifications

Item	MW3GA2/MW4GA2									
	T10	T7EC□1	T7EC□2	T7EC□7	T7EN□1	T7EN□2	T7EN□7	T8G1 T8D1	T8G2 T8D2	T8G7 T8D7
Max. station No.	Standard wiring	18	16	18	16	16	18	16	16	16
	Double wiring	9	8	16	8	8	16	8	16	8
Max. number of solenoids		18	16	32	16	16	32	16	32	16
Port size	Port A/B	Push-in fitting ø6, ø8, Rc1/8								
	P/R Port	Push-in fitting ø8, ø10								

Item	MW3GA2/MW4GA2		
	OWhen N		OFF
Response time ms	2-position	Single	22
		Double	26
	3-position		35

The response times are values with supply pressure of 0.5 MPa at 20°C and without lubrication. They depend on the pressure and the lubricant quality.

## Flow characteristics

Model No.	Solenoid position	P → A/B		A/B → R		
		C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b	
MW3GA2	2-position	2.2	0.35	1.7	0.25	
	3-position	All ports closed	2.0	0.36	2.2	0.21
		ABR connection	2.1	0.34	1.7	0.26
MW4GA2	PAB connection	2.3	0.35	2.3	0.27	

\*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

\*2: Values of the 2-position type and ABR connection type are those with integrated check valve.

## Reduced wiring specifications

Item	T10
Type	Common terminal block M3 thread
Connector	-

# MW<sub>4</sub>GA2-T1, 7, 8-FP1 Series

Reduced wiring manifold; body piping

## Serial transmission slave unit specifications

Download the communication setting file from the CKD website (<https://www.ckd.co.jp/en/>).

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EC1	T7EC2	T7ECP1	T7ECP2	T7ECB7	T7ECPB7	
Network name	EtherCAT				EtherCAT		
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	110 mA or less				110 mA or less (excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN		PNP		NPN	PNP	
Input/output point count	0/16	0/32	0/16	0/32	16/16		
Operation display	Power supply/communication status/valve power supply						
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EN1	T7EN2 *1	T7ENP1	T7ENP2 *1	T7ENB7	T7ENPB7	
Network name	EtherNet/IP						
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	130 mA or less				130 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 points: Unit power supply/valve power supply				2 points: Unit power supply/valve power supply	
	Communication	4 points: MS, NS, L/A IN, L/A OUT				4 points: MS, NS, L/A IN, L/A OUT	
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EB1	T7EB2 *1	T7EBP1	T7EBP2 *1	T7EBB7	T7EBPB7	
Network name	CC-Link IEF Basic						
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	130 mA or less				130 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 positions: PW, PW (V)				2 positions: PW, PW (V)	
	Communication	4 positions: RUN, ERR, L/A IN, L/A OUT, INFO				4 positions: RUN, ERR, L/A IN, L/A OUT, INFO	
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EP1	T7EP2 *1	T7EPP1	T7EPP2 *1	T7EPB7	T7EPPB7	
Network name	PROFINET						
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	130 mA or less				130 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 positions: PW, PW (V)				2 positions: PW, PW (V)	
	Communication	4 positions: RUN, ERR, L/A IN, L/A OUT, INFO				4 positions: RUN, ERR, L/A IN, L/A OUT, INFO	
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7D1	T7D2	T7DP1	T7DP2	T7DB7	T7DPB7	
Network name	DeviceNet						
Power supply voltage	Communicationside	11 to 25 VDC				11 to 25 VDC	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Communicationside	40 mA or less	50 mA or less	40 mA or less	50 mA or less	40 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 areas: Communication power supply (PW), valve power supply (PW (V))				2 areas: Communication power supply (PW), valve power supply (PW (V))	
	Communication	2 areas: MS, NS				2 areas: MS, NS	
Degree of protection	IP65						

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

# MW<sub>4</sub>GA2-T1, 7, 8-FP1 Series

Reduced wiring manifold; body piping

## Serial transmission slave unit specifications

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block	
	T7G1	T7G2 *1	T7GP1	T7GP2	T7GB7	T7GPB7
Network name	CC-Link ver. 1.10					
Power supply voltage	Unit side 24 VDC ±10%					
	Valve side 24 VDC +10%, 5%					
Current consumption	Unit side	40 mA or less	50 mA or less	40 mA or less	50 mA or less	50 mA or less (*2: excluding input block current)
	Valve side	15 mA or less (excluding load current)				
Valve output	NPN output			PNP output		NPN output / PNP output
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output
LED display	Power	2 points: Unit power supply (PW)/valve power supply (PW(V))				
	Communication	2 points: L RUN, L ERR				
Degree of protection	IP65					

## Serial transmission slave unit specifications

Download the communication setting file from the CKD website (<https://www.ckd.co.jp/en/>).

Item	Network name	CC-Link(Ver1.10)			DeviceNet *1		
	Slave unit model No.	T8G1	T8G2	T8G7	T8D1	T8D2	T8D7
Communication speed		156K/625K/2.5M/5M/10Mbps			125K/250K/500Kbps		
Power supply voltage	Unit side	24 VDC ±10%					
	Valve side	24 VDC+10%, -5%					
	Communication side	-					
Current consumption	Unit side	60 mA or less	100 mA or less	75 mA or less (*2)	70 mA or less	90 mA or less	80 mA or less (*2)
	Valve side	15 mA or less (when all points are OFF)					
	Communication side	-					
Valve output		NPN					
Input/output point count		0/16	0/32	16/16	0/16	0/32	16/16
Occupied number		1 station			2 bytes	4 bytes	4 bytes
Operation display		Power supply/communication status/valve power supply			Communication status/valve power supply		

\*1: Compatible with DeviceNet compliant networks (DLNK, etc.) as well.

\*2: If the feed power supply of the input blocks also serves as the unit power supply, use the formula below for calculation.

(Unit side current consumption) =  $\square$  + (35mA × number of input blocks) + (total internal current consumption of sensors connected)

$\square$  ...T8G7:60mA, T8D7:80mA

Note that for T8G7 and T8D7 unit side current consumption, select the sensor so that the current consumption is 600mA or less.

## I/O block specifications

### ● Input block

Model No.	NW4GA2-IN-N-K	NW4GA2-IN-N-B	NW4GA2-IN-P-K	NW4GA2-IN-P-B
Item				
No. of inputs	4 points			
Rated input voltage	24 VDC			
Rated input current	7mA			
ON voltage	15 VDC or more (between input terminals and V)		15 VDC or more (between input terminals and G)	
OFF voltage/OFF current	5 VDC or less (between input terminal and V)/1.5 mA or less		5 VDC or less (between input terminal and G)/1.5 mA or less	
Input	Sink		Source type	
Supply power	Common with unit power supply	Externally supplied power	Common with unit power supply	Externally supplied power
Operation display	Power supply/input status			

Refer to page 217 for model No.

### ● Output block

Model No.	NW4GA2-ONT-N-B	NW4GA2-OUT-P-B
Item		
No. of output points	4 points	
Rated voltage	24 VDC	
Max. load current	1A/1 point (3A/common)	
Residual voltage	1.5 V or less	
Output	Sink	Source type
Protection circuit	Overcurrent protection/reverse connection protection	
Fuse	Power supply for external load: 24 VDC and 5 A (can be replaced)	
Operation display	Power supply/output status	

Refer to page 217 for model No.

# MW<sub>4</sub>GA2-T10-FP1 Series

Reduced wiring manifold; body piping

## How to order

Common terminal block

● Manifold model No.

**MW4GA2** ① 0 - **C8** - **T10** **W** **H** **D** - ⑤ - ③ - **FP1**

● Discrete valve block with solenoid valve

**NW4GA2** ① 0 - **C8** - **W** **H** - ③ - **FP1**

● Discrete solenoid valve for manifold

**W4GA2** ① 9 - **C8** - **H** - ③ - **FP1**

① Model No.

② Mount type

③ Solenoid position

④ Station No.

⑤ Voltage

⑥ Port size  
\*1

⑦ Electrical connections  
\*2

⑧ Reduced wiring connection  
For circuit diagrams (inside the solenoid valve), refer to page 191.

⑨ Terminal/connector pin  
Array method

⑩ Option

## ⚠ Precautions for model selection

Be sure to fill in the "Manifold specifications sheet".

\*1: Specify the size of port P/R in the supply and exhaust block section.

\*2: If a change of specifications is expected for AC, select a valve block with masking plate as a spare block.

\*3: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 218 to 219 for details.

\*4: Blank.....built-in will be based on the type of valve used.

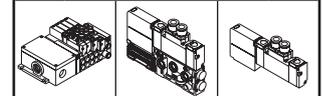
W.....All wired as double solenoid regardless of the type of valve used. It is not necessary to select W if no single solenoid is used. Double wiring will automatically be applied to AC voltage even if W is not specified, since they are only for double wiring.

\*5: Check valve (H) is not available for 3-position all ports closed and 3-position PAB connection.

\*6: A filter is built into port P.

## ① Model No.

Manifold		Valve with a solenoid valve Discrete block		Single solenoid valve	
3-port valve	5-port valve	3-port valve	5-port valve	3-port valve	5-port valve



MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
--------	--------	--------	--------	-------	-------

Code	Description	MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
------	-------------	--------	--------	--------	--------	-------	-------

## ② Solenoid position

1	2 position single		●		●		●
2	2-position double		●		●		●
3	3-position all ports closed		●		●		●
4	3-position ABR connection		●		●		●
5	3-position PAB connection		●		●		●
1	2-position single normally closed	●		●		●	
11	2-position single normally open	●		●		●	
8	Mix manifold (when there are multiple solenoid positions)	●	●				

## ③ Port size (port A/B)

C6	ø6 push-in fitting	●	●	●	●	●	●
C8	ø8 push-in fitting	●	●	●	●	●	●
CX	Push-in fitting mix	●	●				
06	Rc1/8	●	●	●	●	●	●

## ④ Electrical connections

Blank	DC connector relay board specifications			●	●		
2	*AC cable length Page 212 for vacuum piping.						
to				●	●		
8							

## ⑤ Reduced wiring (lamp and surge suppressor provided as standard)

T10	Common terminal block (M3 screw) Left-sided spec.	●	●				
-----	---	---	---	--	--	--	--

## ⑥ Terminal/connector pin array

Blank	Standard wiring	*4	●	●	●	●	
W	Double wiring	*4	●	●	●	●	

## ⑦ Option

Blank	No option		●	●	●	●	●
M	Manual override of non-locking		●	●	●	●	●
H	With check valve	*5	●	●	●	●	●
F	Port A/B filter built in	*6	●	●	●	●	●
Z1	Air supply spacer	*3	●	●			
Z3	Exhaust spacer	*3	●	●			
Z8	Individual air supply compatible spacer with in-stop valve spacer	*3	●	●			

## ⑧ Mount type

Blank	Direct mount		●	●			
D	DIN rail mount		●	●			

## ⑨ Station No.

2	2 stations						
to	to	●	●				
18	18 stations						

## ⑩ Voltage

1	100 VAC (rectifier integrated)(Made to order)	●	●	●	●	●	●
3	24 VDC	●	●	●	●	●	●
4	12 VDC (Made to order)	●	●	●	●	●	●

indicates not available.

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/  
bacteria-removing filter  
Vacuum components  
Fluid control valves

# MW<sup>3</sup><sub>4</sub>GA2-T7, T8-FP1 Series

Reduced wiring manifold; body piping

## How to order

Serial transmission

● Manifold model No.

**MW4GA2** ① 0 - **C8** - **T8G1** **W** **H** **D** - ⑤ - ③ - **FP1**

● Discrete valve block with solenoid valve

**NW4GA2** ① 0 - **C8** - **W** **H** - ③ - **FP1**

● Discrete solenoid valve for manifold

**W4GA2** ① 9 - **C8** - **H** - ③ - **FP1**

Ⓐ Model No.

Ⓗ Mount type

Ⓑ Solenoid position

Ⓘ Station No.

Ⓙ Voltage

Ⓒ Port size  
\*1

Ⓓ Electrical connections

Ⓔ Reduced wiring connection  
For circuit diagrams (inside the solenoid valve),  
refer to page 191.

Ⓕ Terminal/connector pin  
Array method

Ⓖ Option

## ⚠ Precautions for model selection

Be sure to fill in the "Manifold specifications sheet".

\*1: Specify the size of port P/R in the supply and exhaust block section.

\*2: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 218 to 219 for details.

\*3: Blank.....built-in will be based on the type of valve used.

W.....All wired as double solenoid regardless of the type of valve used. It is not necessary to select W if no single solenoid is used.

\*4: Check valve (H) is not available for 3-position all ports closed and 3-position PAB connection.

\*5: A filter is built into port P.

\*6: Specify the I/O type (sink/source) of I/O block and the power supply (shared with slave unit/external) in the manifold specifications sheet (Page 224).

\*7: 100 VAC and 12 VDC settings are not available for serial transmission connection specifications.

Ⓐ Model No.					
Manifold		Valve with a solenoid valve Discrete block		Single solenoid valve	
3-port valve	5-port valve	3-port valve	5-port valve	3-port valve	5-port valve
MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2

Code	Description	MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2
<b>Ⓑ Solenoid position</b>							
1	2 position single		●		●		●
2	2-position double		●		●		●
3	3-position all ports closed		●		●		●
4	3-position ABR connection		●		●		●
5	3-position PAB connection		●		●		●
1	2-position single normally closed	●		●		●	
11	2-position single normally open	●		●		●	
8	Mix manifold (when there are multiple solenoid positions)	●	●				
<b>Ⓒ Port size (port A/B)</b>							
C6	ø6 push-in fitting	●	●	●	●	●	●
C8	ø8 push-in fitting	●	●	●	●	●	●
CX	Push-in fitting mix	●	●				
06	Rc1/8	●	●	●	●	●	●
<b>Ⓓ Electrical connections</b>							
Blank	DC connector relay board specifications			●	●		
<b>Ⓔ Reduced wiring (lamp and surge suppressor provided as standard)</b>							
Refer to the next page for reduced wiring.							
<b>Ⓕ Terminal/connector pin array</b>							
Blank	Standard wiring	*3	●	●	●	●	
W	Double wiring	*3	●	●	●	●	
<b>Ⓖ Option</b>							
Blank	No option	●	●	●	●	●	●
M	Manual override of non-locking	●	●	●	●	●	●
H	With check valve	*4	●	●	●	●	●
F	Port A/B filter built in	*5	●	●	●	●	●
Y**	I/O block (In **, enter the number of the desired I/O block combination from Table 1 on the next page I/O block combination table.)	*6	●	●			
Z1	Air supply spacer	*2	●	●			
Z3	Exhaust spacer	*2	●	●			
Z8	Individual air supply compatible spacer with in-stop valve spacer	*2	●	●			
<b>Ⓗ Mount type</b>							
Blank	Direct mount		●				
D	DIN rail mount		●	●			
<b>Ⓘ Station No.</b>							
2	2 stations						
to	(Differs depending on the reduced wiring specifications. Individual specifications(Page 199).)	●	●				
16	16 stations						
<b>Ⓙ Voltage</b>							
3	24 VDC	*7	●	●	●	●	●

indicates not available.

# MW<sub>4</sub>GA2-T7, T8-FP1 Series

Reduced wiring manifold; body piping

[Reduced wiring list]

A Model No.					
Manifold		Discrete valve block with solenoid valve		Single solenoid valve	
3-port valve	5-port valve	3-port valve	5-port valve	3-port valve	5-port valve
					
MW3GA2	MW4GA2	NW3GA2	NW4GA2	W3GA2	W4GA2

Table 1 [I/O block combination table]  
T7

Code	Layout of I/O blocks and station No.					
Y10						IN
Y20						IN IN
Y30				IN	IN	IN
Y40			IN	IN	IN	IN
Y11					OUT	IN
Y21					OUT	IN IN
Y31			OUT	IN	IN	IN
Y41		OUT	IN	IN	IN	IN
Y12					OUT	OUT IN
Y22			OUT	OUT	IN	IN
Y32		OUT	OUT	IN	IN	IN
Y42	OUT	OUT	IN	IN	IN	IN

T8

Code	Layout of I/O blocks and station No.					
Y10						IN
Y20						IN IN
Y30				IN	IN	IN
Y40			IN	IN	IN	IN
Y01						OUT
Y02					OUT	OUT
Y03					OUT	OUT
Y04			OUT	OUT	OUT	OUT
Y11					OUT	IN
Y21					OUT	IN IN
Y31			OUT	IN	IN	IN
Y41		OUT	IN	IN	IN	IN
Y12					OUT	OUT IN
Y22			OUT	OUT	IN	IN
Y32		OUT	OUT	IN	IN	IN
Y42	OUT	OUT	IN	IN	IN	IN

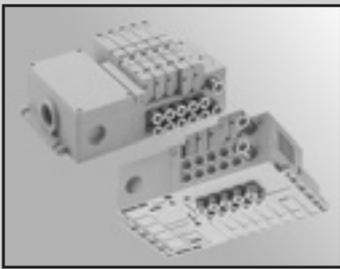
\*1: How to read the table  
Example) Y11 is a combination of one input block (4 points) and one output block (4 points).  
\*2: For details, refer to "Pneumatic Valves (CB-023SA)" and "I/O point number corresponding to wiring method T8\* I/O No."

E Reduced wiring (lamp and surge suppressor provided as standard)						
T7EC1	Thin EtherCAT	16-point output (NPN valve output)	●	●		
T7ECP1		16-point output (PNP valve output)	●	●		
T7EC2		32-point output (NPN valve output)	●	●		
T7ECP2		32-point output (PNP valve output)	●	●		
T7ECB7		16/16-point I/O (NPN valve output)	●	●		
T7ECPB7	16/16-point I/O (PNP valve output)	●	●			
T7EN1	Thin EtherNet/IP	16-point output (NPN Valve Output)	●	●		
T7ENP1		16-point output (PNP Valve Output)	●	●		
T7EN2		32-point output (NPN Valve Output)	●	●		
T7ENP2		32-point output (PNP Valve Output)	●	●		
T7ENB7		16/16 I/O point (NPN Valve Output)	●	●		
T7ENPB7		16/16 I/O point (PNP Valve Output)	●	●		
T7EB1		Thin CC-Link IEF Basic	16-point output (NPN Valve Output)	●	●	
T7EBP1	16-point output (PNP Valve Output)		●	●		
T7EB2	32-point output (NPN Valve Output)		●	●		
T7EBP2	32-point output (PNP Valve Output)		●	●		
T7EBB7	16/16 I/O point (NPN Valve Output)		●	●		
T7EBPB7	16/16 I/O point (PNP Valve Output)	●	●			
T7EP1	Thin PROFINET	16-point output (NPN Valve Output)	●	●		
T7EPP1		16-point output (PNP Valve Output)	●	●		
T7EP2		32-point output (NPN Valve Output)	●	●		
T7EPP2		32-point output (PNP Valve Output)	●	●		
T7EPB7		16/16 I/O point (NPN Valve Output)	●	●		
T7EPPB7		16/16 I/O point (PNP Valve Output)	●	●		
T7G1		Thin CC-Link	16-point output (NPN valve output)	●	●	
T7GP1	16-point output (PNP valve output)		●	●		
T7G2	32-point output (NPN valve output)		●	●		
T7GP2	32-point output (PNP valve output)		●	●		
T7GB7	16/16-point I/O (NPN valve output)		●	●		
T7GPB7	16/16-point I/O (PNP valve output)		●	●		
T7D1	Thin DeviceNet		16-point output (NPN valve output)	●	●	
T7DP1		16-point output (PNP valve output)	●	●		
T7D2		32-point output (NPN valve output)	●	●		
T7DP2		32-point output (PNP valve output)	●	●		
T7DB7		16/16-point I/O (NPN valve output)	●	●		
T7DPB7	16/16-point I/O (PNP valve output)	●	●			
T8G1	CC-Link	16 point output	●	●		
T8G2		32 point output	●	●		
T8G7		16 point input/16 point output	●	●		
T8D1	DeviceNet	16 point output	●	●		
T8D2		32 point output	●	●		
T8D7		16 point input/16 point output	●	●		

Refer to the MW4GA2-T\* Series in "Pneumatic Valves (CB-023SA)" for dimensions.

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1  
FP2



Reduced wiring manifolds  
Base side piping/base bottom piping

# MW4G<sub>Z</sub>2-T1, 7, 8-FP1 Series

● Cylinder bore size: ø20 to ø80



## Manifold common specifications

Item	MW4GB2	MW4GZ2
Manifold	Block manifolds	
Air supply and exhaust method	Common supply/common exhaust (with check valve built-in)	
Pilot exhaust method	Internal pilot	Main valve/pilot valve common exhaust (pilot exhaust check valve built-in)
	External pilot	Main valve/pilot valve individual exhaust
Piping direction	Side direction of base	Downward from base
Valve and operation	Pilot operated soft spool valve	
Working fluid	Compressed air	
Max. working pressure MPa	0.7	
Min. working pressure MPa	0.2	
Proof pressure MPa	1.05	
Ambient temperature °C	-5 to 55 (no freezing)	
Fluid temperature °C	5 to 55	
Manual override	Non-locking/locking common (standard)	
Degree of protection (*1)	Dust proof/water jet proof (IP65)	
Vibration resistance m/s <sup>2</sup>	49 or less	
Shock resistance m/s <sup>2</sup>	294 or less	
Atmosphere	Cannot be used in corrosive gas environments	

\*1: IP65 (IEC60529|IEC529:1989-11) standards are applied to the test.

## Electrical specifications

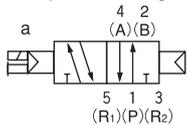
Item	W4GB2	
Rated voltage V	DC	12, 24
	AC	100
Voltage fluctuation range	±10%	
Holding current A	24 VDC	0.025
	12 VDC	0.050
	100 VAC	0.012
Power consumption W(*2)	24 VDC	0.6
	12 VDC	0.6
Apparent power VA(*3)	100 VAC	1.2
Thermal class	B	

\*2: Surge suppressor and indicator are equipped as standard.  
\*3: 100 VAC and 12 VDC settings are not available for serial transmission connection specifications.

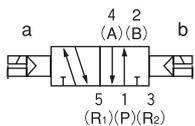
## JIS symbol

● 5-port valve

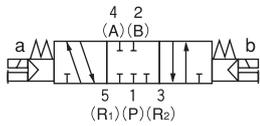
2 position single



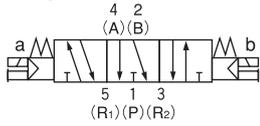
2-position double



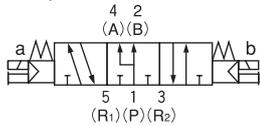
3-position all ports closed



3-position A/B/R connection



3-position P/A/B connection



## Individual specifications

Item		MW4GB2/MW4GZ2									
		T10	T7EC □1	T7EC □2	T7EC □7	T7EN □1	T7EN □2	T7EN □7	T8G1 T8D1	T8G2 T8D2	T8G7 T8D7
Max. station No.	Standard wiring	18	16	18	16	16	18	16	16	18	16
	Double wiring	9	8	16	8	8	16	8	16	16	8
Max. number of solenoids		18	16	32	16	16	32	16	16	32	16
Port size	Port A/B	Push-in fitting ø6, ø8, Rc1/8									
	P/R Port	Push-in fitting ø8, ø10									

Item		MW4GB2/MW4GZ2	
		OWhen N	OFF
Response times	2-position	Single	22
		Double	26
	3-position	25	35

The response times are values with supply pressure of 0.5 MPa at 20°C and without lubrication. They depend on the pressure and the lubricant quality.

## Flow characteristics

Model No.	Solenoid position	P → A/B		A/B → R	
		C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b
MW4GB2	2-position	2.4	0.36	1.7	0.25
	3-position	All ports closed	2.1	0.37	2.2
ABR connection		2.2	0.35	1.7	0.25
PAB connection		2.3	0.32	2.3	0.24

\*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.

\*2: Values of the 2-position type and ABR connection type are those with integrated check valve.

## Reduced wiring specifications

Item	T10
Type	Common terminal block M3 thread
Connector	-

# MW4G <sup>B</sup>/<sub>Z</sub> 2-T1, 7, 8-FP1 Series

Reduced wiring manifolds; Base side piping/base bottom piping

## Serial transmission slave unit specifications

Download the communication setting file from the CKD website (<https://www.ckd.co.jp/en/>).

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EC1	T7EC2	T7ECP1	T7ECP2	T7ECB7	T7ECPB7	
Network name	EtherCAT				EtherCAT		
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	110 mA or less				110 mA or less (excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN		PNP		NPN	PNP	
Input/output point count	0/16	0/32	0/16	0/32	16/16		
Operation display	Power supply/communication status/valve power supply						
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EN1	T7EN2 *1	T7ENP1	T7ENP2 *1	T7ENB7	T7ENPB7	
Network name	EtherNet/IP						
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	130 mA or less				130 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 points: Unit power supply/valve power supply				2 points: Unit power supply/valve power supply	
	Communication	4 points: MS, NS, L/A IN, L/A OUT				4 points: MS, NS, L/A IN, L/A OUT	
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EB1	T7EB2 *1	T7EBP1	T7EBP2 *1	T7EBB7	T7EBPB7	
Network name	CC-Link IEF Basic						
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	130 mA or less				130 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 positions: PW, PW (V)				2 positions: PW, PW (V)	
	Communication	4 positions: RUN, ERR, L/A IN, L/A OUT, INFO				4 positions: RUN, ERR, L/A IN, L/A OUT, INFO	
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7EP1	T7EP2 *1	T7EPP1	T7EPP2 *1	T7EPB7	T7EPPB7	
Network name	PROFINET						
Power supply voltage	Unit side	24 VDC ±10%				24 VDC ±10%	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Unit side	130 mA or less				130 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 positions: PW, PW (V)				2 positions: PW, PW (V)	
	Communication	4 positions: RUN, ERR, L/A IN, L/A OUT, INFO				4 positions: RUN, ERR, L/A IN, L/A OUT, INFO	
Degree of protection	IP65						

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block		
	T7D1	T7D2 *1	T7DP1	T7DP2 *1	T7DB7	T7DPB7	
Network name	DeviceNet						
Power supply voltage	Communicationside	11 to 25 VDC				11 to 25 VDC	
	Valve side	24 VDC +10%, 5%				24 VDC +10%, 5%	
Current consumption	Communicationside	40 mA or less	50 mA or less	40 mA or less	50 mA or less	40 mA or less (*2: excluding input block current)	
	Valve side	15 mA or less (excluding load current)				15 mA or less (excluding load current)	
Valve output	NPN output		PNP output		NPN output	PNP output	
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output	
LED display	Power	2 areas: Communication power supply (PW), valve power supply (PW (V))				2 areas: Communication power supply (PW), valve power supply (PW (V))	
	Communication	2 areas: MS, NS				2 areas: MS, NS	
Degree of protection	IP65						

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
E/R/Auxiliary Components Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

# MW4G<sub>Z</sub><sup>B</sup>2-T1/7/8-FP1 Series

Reduced wiring manifolds; Base side piping/base bottom piping

## Serial transmission slave unit specifications

Item	Slave unit dedicated for valves (without I/O block)				Slave unit with I/O block	
	T7G1	T7G2	T7GP1	T7GP2	T7GB7	T7GPB7
Network name	CC-Link ver. 1.10					
Power supply voltage	Unit side	24 VDC ±10%				
	Valve side	24 VDC +10%, 5%				
Current consumption	Unit side	40 mA or less	50 mA or less	40 mA or less	50 mA or less	50 mA or less (*2: excluding input block current)
	Valve side	15 mA or less (excluding load current)				
Valve output	NPN output			PNP output		NPN output / PNP output
No. of I/O points	16 point output	32 point output	16 point output	32 point output	16 point input/16 point output	16 point input/16 point output
LED display	Power	2 points: Unit power supply (PW)/valve power supply (PW(V))				
	Communication	2 points: L RUN, L ERR				
Degree of protection	IP65					

## Serial transmission slave unit specifications

Download the communication setting file from the CKD website (<https://www.ckd.co.jp/en/>).

Item	Network name	CC-Link(Ver1.10)			DeviceNet *1		
	Slave unit model No.	T8G1	T8G2	T8G7	T8D1	T8D2	T8D7
Communication speed		156K/625K/2.5M/5M/10Mbps			125K/250K/500Kbps		
Power supply voltage	Unit side	24 VDC ±10%					
	Valve side	24 VDC+10%, -5%					
	Communication side	-			11 to 25 VDC		
Current consumption	Unit side	60 mA or less	100 mA or less	75 mA or less (*2)	70 mA or less	90 mA or less	80 mA or less (*2)
	Valve side	15 mA or less (when all points are OFF)					
	Communication side	-			50 mA or less		
Valve output		NPN					
Input/output point count		0/16	0/32	16/16	0/16	0/32	16/16
Occupied number		1 station			2 bytes	4 bytes	4 bytes
Operation display		Power supply/communication status/valve power supply			Communication status/valve power supply		

\*1: Compatible with DeviceNet compliant networks (DLNK, etc.) as well.

\*2: If the feed power supply of the input blocks also serves as the unit power supply, use the formula below for calculation.

(Unit side current consumption) =  $\square$  + (35mA × number of input blocks) + (total internal current consumption of sensors connected)

$\square$  ...T8G7:60mA, T8D7:80mA

Note that for T8G7 and T8D7 unit side current consumption, select the sensor so that the current consumption is 600mA or less.

## I/O block specifications

● Input block

Model No.	NW4GB2- IN-N-K	NW4GB2- IN-N-B	NW4GB2 - IN-P-K	NW4GB2- IN-P-B
No. of inputs	4 points			
Rated input voltage	24 VDC			
Rated input current	7mA			
ON voltage	15 VDC or more (between input terminals and V)		15 VDC or more (between input terminals and G)	
OFF voltage/OFF current	5 VDC or less (between input terminal and V)/1.5 mA or less		5 VDC or less (between input terminal and G)/1.5 mA or less	
Input	Sink		Source type	
Supply power	Common with unit power supply	Externally supplied power	Common with unit power supply	Externally supplied power
Operation display	Power supply/input status			

\*1: Refer to page 217 for model No.

● Output block

Model No.	NW4GB2-OUT-N-B	NW4GB2-OUT-P-B
No. of output points	4 points	
Rated voltage	24 VDC	
Max. load current	1A/1 point (3A/common)	
Residual voltage	1.5 V or less	
Output	Sink	Source type
Protection circuit	Overcurrent protection/reverse connection protection	
Fuse	Power supply for external load: 24 VDC and 5 A (can be replaced)	
Operation display	Power supply/output status	

\*1: Refer to page 217 for model No.

# MW4G<sup>B</sup>2-T10-FP1 Series

Reduced wiring manifolds; Base side piping/base bottom piping

## How to order

Common terminal block

● Manifold model No.

MW4GB2 1 0 - C8 - T10 W H D - 5 - 3 - FP1

MW4GZ2 1 0 - C8 - T10 W H - 5 - 3 - FP1

● Discrete valve block with solenoid valve

NW4GB2 1 0 - C8 - W H - 3 - FP1

NW4GZ2 1 0 - C8 - W H - 3 - FP1

● Single solenoid valve(NW4GB2/NW4GZ2 common \*1)

W4GB2 1 9- 00 - H - 3 - FP1

A Model No.

B Solenoid position

H Mount Type

J Voltage

I Station No.

C Port size \*2

D Electrical connections \*3

E Reduced wiring connection circuit diagrams (inside the solenoid valve), Page 191 details.

F Terminal/connector pin Array method

G Option

A Model No.				
Manifold		Discrete valve block with solenoid valve		Single solenoid valve
MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2

Code	Description	MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2
<b>B Solenoid position</b>						
1	2 position single	●	●	●	●	●
2	2-position double	●	●	●	●	●
3	3-position all ports closed	●	●	●	●	●
4	3-position ABR connection	●	●	●	●	●
5	3-position PAB connection	●	●	●	●	●
8	Mix manifold (when there are multiple solenoid positions)	●	●			
<b>C Port size (port A/B)</b>						
C6	ø6 push-in fitting	●	●	●	●	
C8	ø8 push-in fitting	●	●	●	●	
CX	Push-in fitting mix	●	●			
Single side plug		Port A		Port B		
C6NC	ø6 push-in fitting	●	●	●	●	
C8NC	ø8 push-in fitting	●	●	●	●	
C6NO	Plug	ø6 push-in fitting		●	●	●
C8NO		ø8 push-in fitting		●	●	●
<b>D Electrical connections</b>						
Blank	DC connector relay board specifications			●	●	
2						
to	Select the AC cable length on page 212			●	●	
8						
<b>E Reduced wiring (lamp and surge suppressor provided as standard)</b>						
T10	Common terminal block (M3 screw) Left-sided spec.	●	●			
<b>F Terminal/connector pin array</b>						
Blank	Standard wiring	*5	●	●	●	●
W	Double wiring	*5	●	●	●	●
<b>G Option</b>						
Blank	No option	●	●	●	●	●
M	Manual override of non-locking	●	●	●	●	●
H	With check valve	*6	●	●	●	●
F	Port A/B filter built in	*7	●	●	●	
Z1	Air supply spacer	*4	●	●		
Z3	Exhaust spacer	*4	●	●		
Z8	Individual air supply compatible spacer with in-stop valve spacer*4		●	●		
<b>H Mount type</b>						
Blank	Direct mount	●	●			
D	DIN rail mount	●				
<b>I Station No.</b>						
2	2 stations					
to	to	●	●			
18	18 stations					
<b>J Voltage</b>						
1	100 VAC (rectifier integrated)(Made to order)	●	●	●	●	●
3	24 VDC	●	●	●	●	●
4	12 VDC(Made to order)	●	●	●	●	●

indicates not available.

## ⚠ Precautions for model selection

Be sure to fill in the "Manifold specifications sheet".

- \*1: The W4GB2\*9 discrete solenoid valve is used for the NW4GZ2 discrete valve block with solenoid valve.
- \*2: Ports A and B plug specifications (\*NC/\*NO) are available for 2-position single only. Specify the port P/R bore size in the supply and exhaust block section.
- \*3: With AC, when a change of specifications is expected, select a valve block with masking plate as a spare block.
- \*4: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 218 to 219 for details.
- \*5: Blank.....built-in will be based on the type of valve used.  
W.....All wired as double solenoid regardless of the type of valve used. It is not necessary to select W if no single solenoid is used. Double wiring will automatically be applied to AC voltage even if W is not specified, since they are only for double wiring.
- \*6: Check valve (H) is not available for 3-position all ports closed and PAB connection.
- \*7: A filter is built into port P.

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

# MW4G<sup>B</sup>Z2-T7/T8-FP1 Series

Reduced wiring manifolds; Base side piping/base bottom piping

## How to order

Serial transmission

● Manifold model No.

MW4GB2 1 0- C8 - T8G1 W H D - 5 - 3 - FP1

MW4GZ2 1 0- C8 - T8G1 W H - 5 - 3 - FP1

● Discrete valve block with solenoid valve

NW4GB2 1 0- C8 - W H - 3 - FP1

NW4GZ2 1 0- C8 - W H - 3 - FP1

● Single solenoid valve (NW4GB2/NW4GZ2 common \*1)

W4GB2 1 9- 00 H - 3 - FP1

A Model No.

B Solenoid position

H Mount Type

I Station No.

C Port size \*2

D Electrical connections

E Reduced wiring connection

For circuit diagrams (inside the solenoid valve), refer to page 191.

F Terminal/connector pin Array method

G Option

## ⚠ Precautions for model selection

Be sure to fill in the "Manifold specifications sheet".

\*1: The single solenoid valve used for the valve block with solenoid valve NW4GZ2 is the same as W4GB2\*9.

\*2: Ports A and B plug specifications (\*NC/\*NO) are available for 2-position single only. Specify the port P/R bore size in the supply and exhaust block section.

\*3: Blank.....built-in will be based on the type of valve used.  
W.....All wired as double solenoid regardless of the type of valve used. It is not necessary to select W if no single solenoid is used.

\*4: Check valve (H) is not available for 3-position all ports closed and PAB connection.

\*5: A filter is built into port P.

\*6: Select the I/O type (sink/source) of I/O block and the power supply (shared with slave unit/external) in the manifold specifications sheet on pages 225 to 226.

\*7: Specify the spacer mounting position/quantity in the manifold specifications sheet. Stacking of spacers is not possible. Combination with the masking plate is not supported. Refer to pages 218 to 219 for details.

\*8: Serial transmission is not available with 100 VAC and 12 VDC.

A Model No.				
Manifold	Discrete valve block with solenoid valve	Single solenoid valve		
MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2

Code	Description	MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2
<b>B Solenoid position</b>						
1	2 position single	●	●	●	●	●
2	2-position double	●	●	●	●	●
3	3-position all ports closed	●	●	●	●	●
4	3-position ABR connection	●	●	●	●	●
5	3-position PAB connection	●	●	●	●	●
8	Mix manifold (when there are multiple solenoid positions)	●	●			
<b>C Port size (port A/B)</b>						
C6	ø6 push-in fitting	●	●	●	●	
C8	ø8 push-in fitting	●	●	●	●	
CX	Push-in fitting mix	●	●			
Single side plug	Port A	Port B				
C6NC	ø6 push-in fitting	Plug	●	●	●	●
C8NC	ø8 push-in fitting		●	●	●	●
C6NO	Plug	ø6 push-in fitting	●	●	●	●
C8NO		ø8 push-in fitting	●	●	●	●
<b>D Electrical connections</b>						
Blank	DC connector relay board specifications			●	●	
<b>E Reduced wiring (lamp and surge suppressor provided as standard)</b>						
Refer to the next page for reduced wiring.						
<b>F Terminal/connector pin array</b>						
Blank	Standard wiring *3	●	●	●	●	
W	Double wiring *3	●	●	●	●	
<b>G Option</b>						
Blank	No option	●	●	●	●	●
M	Manual override of non-locking	●	●	●	●	●
H	With check valve *4	●	●	●	●	●
F	Port A/B filter built in *5	●	●	●	●	
Y**	I/O block (In **, enter the number of the desired I/O block combination from Table 1 [I/O block combination table]) *6	●	●			
Z1	Air supply spacer *7	●	●			
Z3	Exhaust spacer *7	●	●			
Z8	Individual air supply compatible spacer with in-stop valve spacer *7	●	●			
<b>H Mount type</b>						
Blank	Direct mount	●	●			
D	DIN rail mount	●				
<b>I Station No.</b>						
2	2 stations	●	●			
to	to					
16	16 stations					
<b>J Voltage</b>						
3	24 VDC *8	●	●	●	●	●

indicates not available.

# MW4G<sub>Z</sub>2-T7/T8-FP1 Series

Reduced wiring manifolds; Base side piping/base bottom piping

[Reduced wiring list]

A Model No.				
Manifold		Discrete valve block with solenoid valve		Single solenoid valve
				
MW4GB2	MW4GZ2	NW4GB2	NW4GZ2	W4GB2

E Reduced wiring (lamp and surge suppressor provided as standard)				
T7EC1	Thin	16 point output(NPN valve output)	●	●
T7ECP1		16 point output(PNP valve output)	●	●
T7EC2	EtherCAT	32 point output(NPN valve output)	●	●
T7ECP2		32 point output(PNP valve output)	●	●
T7ECB7		16/16-point I/O(NPN Valve output)	●	●
T7ECPB7		16/16-point I/O(PNP Valve output)	●	●
T7EN1	Thin	16-point output (NPN Valve Output)	●	●
T7ENP1		16-point output (PNP Valve Output)	●	●
T7EN2	EtherNet/IP	32-point output (NPN Valve Output)	●	●
T7ENP2		32-point output (PNP Valve Output)	●	●
T7ENB7		16/16 I/O point (NPN Valve Output)	●	●
T7ENBP7		16/16 I/O point (PNP Valve Output)	●	●
T7EB1	Thin	16-point output (NPN Valve Output)	●	●
T7EBP1		16-point output (PNP Valve Output)	●	●
T7EB2	CC-Link IEF Basic	32-point output (NPN Valve Output)	●	●
T7EBP2		32-point output (PNP Valve Output)	●	●
T7EBB7		16/16 I/O point (NPN Valve Output)	●	●
T7EBPB7		16/16 I/O point (PNP Valve Output)	●	●
T7EP1	Thin	16-point output (NPN ValveOutput)	●	●
T7EPP1		16-point output (PNP ValveOutput)	●	●
T7EP2	PROFINET	32-point output (NPN ValveOutput)	●	●
T7EPP2		32-point output (PNP Valve Output)	●	●
T7EPB7		16/16 I/O point (NPN Valve Output)	●	●
T7EPPB7		16/16 I/O point (PNP Valve Output)	●	●
T7G1	Thin	16 point output(NPN valve output)	●	●
T7GP1		16 point output(PNP valve output)	●	●
T7G2	CC-Link	32 point output(NPN valve output)	●	●
T7GP2		32 point output(PNP valve output)	●	●
T7GB7		16/16-point I/O(NPN Valve output)	●	●
T7GPB7		16/16-point I/O(PNP Valve output)	●	●
T7D1	Thin	16 point output(NPN valve output)	●	●
T7DP1		16 point output(PNP valve output)	●	●
T7D2	DeviceNet	32 point output(NPN valve output)	●	●
T7DP2		32 point output(PNP valve output)	●	●
T7DB7		16/16-point I/O(NPN Valve output)	●	●
T7DPB7		16/16-point I/O(PNP Valve output)	●	●
T8G1	CC-Link	16 point output	●	●
T8G2		32 point output	●	●
T8G7		16 point input/16 point output	●	●
T8D1		DeviceNet	16 point output	●
T8D2	32 point output		●	●
T8D7		16 point input/16 point output	●	●

Table 1 [I/O block combination table]  
T7

Code	Layout of I/O blocks and station No.				Wiring Block side	
Y10				IN		
Y20				IN		IN
Y30			IN	IN		IN
Y40		IN	IN	IN		IN
Y11				OUT		IN
Y21				OUT		IN
Y31			OUT	IN		IN
Y41	OUT	IN	IN	IN		IN
Y12			OUT	OUT		IN
Y22			OUT	OUT	IN	
Y32	OUT	OUT	IN	IN	IN	
Y42	OUT	OUT	IN	IN	IN	

T8

Code	Layout of I/O blocks and station No.				Wiring Block side	
Y10				IN		
Y20				IN		IN
Y30			IN	IN		IN
Y40		IN	IN	IN		IN
Y01				OUT		
Y02				OUT		OUT
Y03			OUT	OUT		OUT
Y04		OUT	OUT	OUT		OUT
Y11				OUT		IN
Y21				OUT		IN
Y31			OUT	IN		IN
Y41	OUT	IN	IN	IN		IN
Y12			OUT	OUT		IN
Y22			OUT	OUT	IN	
Y32	OUT	OUT	IN	IN	IN	
Y42	OUT	OUT	IN	IN	IN	

\*1: How to read the table  
Example) Y11 is a combination of one input block (4 points) and one output block (4 points).

\*2: For details,Pneumatic Valves (CB-023SA)  
Refer to "I/O point number corresponding to wiring method T8\* I/O No."

Refer to the MW4GB2-T\* Series in "Pneumatic Valves (CB-023SA)" for dimensions.

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic Valves  
FRL/Auxiliary Components Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2

# NW4G-FP1 Series

## Block manifold;Piping

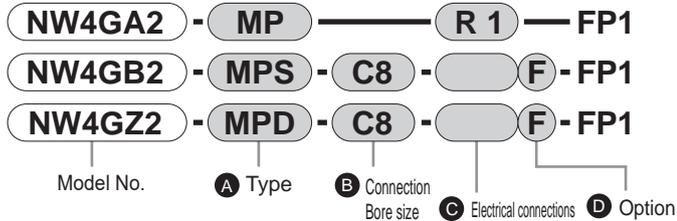
### Piping

A. Discrete valve block with solenoid valve \* When placing an order for station expansion, tie rods (2 pcs) are attached.

Block assembled from solenoid valve body and valve block (split resin base).

For selection guide, refer to pages 196, 198, 202 to 204 and 208 to 210.

B. Discrete valve block with masking plate \* When placing an order for station expansion, tie rods (2 pcs) are attached.



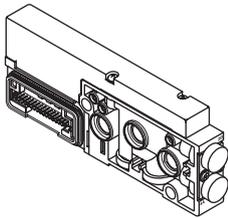
A Type (*1)		B Port size (*2)		C Electrical connections (*3)		D Option	
<b>MP</b>	Individual wiring	<b>C6</b>	ø6 push-in fitting	<b>Blank</b>	DC connector relay board specifications	<b>Blank</b>	No option
<b>MPS</b>	For standard wiring (single)	<b>C8</b>	ø8 push-in fitting	<b>R 1</b>	I/O connector (M12) (500 mm)	<b>F</b>	Port A/B filter built in
<b>MPD</b>	For double wiring (single)/ for double/3-position	<b>C6NC</b>	Port A/ø6 push-in fitting, port B/plug	<b>2 to 8</b>	Select the AC cable length on page 212		
		<b>C6NO</b>	Port A/plug, port B/ø6 push-in fitting				
		<b>C8NC</b>	Port A/ø8 push-in fitting, port B/plug				
		<b>C8NO</b>	Port A/plug, port B/ø8 push-in fitting				

\*1: Select MPD for AC voltage since the socket assembly is wired as double solenoid.

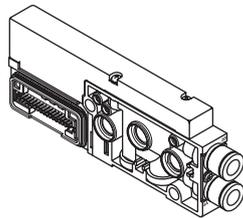
\*3: Keep the code blank for DC and specify the cable length of socket assembly for AC. If specified in the manifold specifications sheet, the cable length can be omitted. The socket assembly for AC is wired as double solenoid.

[For DC]

NW4GA2-MPS-FP1

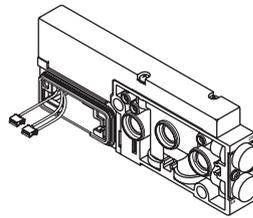


NW4GB2-MPS-C8-FP1

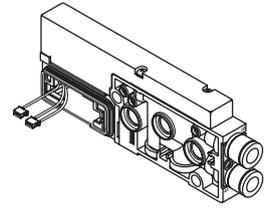


[For AC]

NW4GA2-MPD-2-FP1

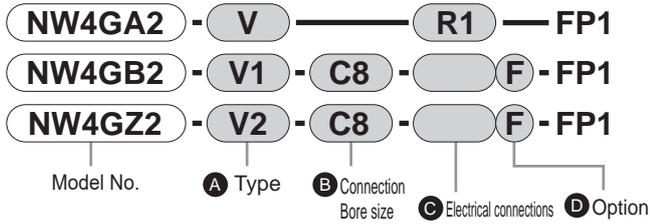


NW4GB2-MPD-C8-2-FP1



## Piping

C. Discrete valve block (separate item only) \* When placing an order for station expansion, tie rods (2 pcs) are attached.

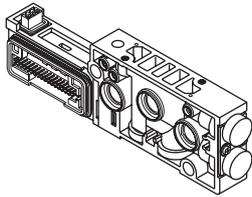


A Type (*1)		B Port size (*2)		C Electrical connections (*3)		D Option	
V	Individual wiring	C6	ø6 push-in fitting	Blank	DC connector relay board specifications	Blank	No option
V1	For standard wiring (single)	C8	ø8 push-in fitting	R 1	I/O connector (M12) (500 mm)	F	Port A/B filter built in
V2	For double wiring (single)/ for double/3-position	C6NC	Port A/ø6 push-in fitting, port B/plug	2 to 8	Select the AC cable length in the table below		
		C6NO	Port A/plug, port B/ø6 push-in fitting				
		C8NC	Port A/ø8 push-in fitting, port B/plug				
		C8NO	Port A/plug, port B/ø8 push-in fitting				

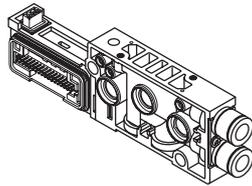
\*1: Select V2 for AC voltage, since the socket assembly is wired as double solenoid.  
 \*3: Keep the code blank for DC and specify the cable length of socket assembly for AC. The socket assembly for AC is wired as double solenoid.

[For DC]

NW4GA2-V1-FP1

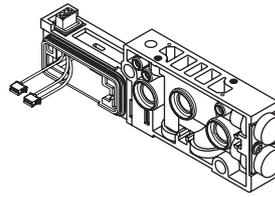


NW4GB2-V2-C8-FP1

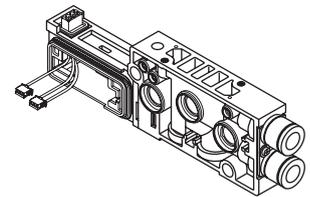


[For AC]

NW4GA2-V2-2-FP1



NW4GB2-V2-C8-2-FP1



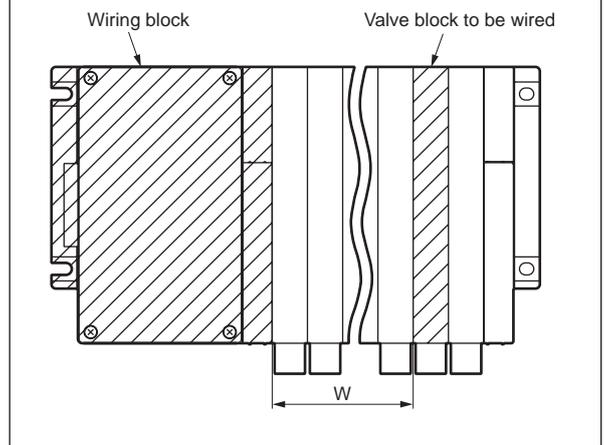
## AC valve block cable length

When the total width of supply and exhaust blocks and partition blocks between the valve block to be connected and the wiring block is 63 mm and over (e.g., two supply and exhaust blocks + two partition blocks), calculate the width (W) and select the longer lead wire length closest to the width value.  
 $W = (23.5 \times n) + (18 \times m) + (13.5 \times l) + 230$   
 n/m/l: No. of valve blocks/supply and exhaust blocks/partition blocks

Consult with CKD if W exceeds 610 mm.

Selection No.	Cable length
2	1- to 2-station socket assembly (290 mm cable), AC
3	3- to 4-station socket assembly (330 mm cable), AC
4	5- to 6-station socket assembly (380 mm cable), AC
5	7- to 8-station socket assembly (430 mm cable), AC
6	9- to 10-station socket assembly (480 mm cable), AC
7	11- to 14-station socket assembly (530 mm cable), AC
8	15- to 18-station socket assembly (610 mm cable), AC

Fig. 1



Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components  
Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/ bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

FP2

# NW4G-FP1 Series

## Block manifold;Piping

### Piping

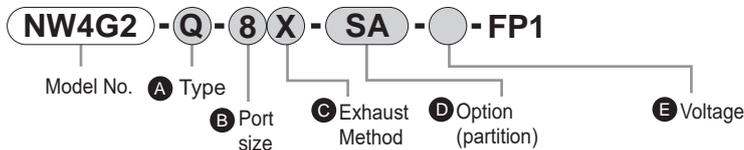
As problems may occur depending on the configuration, make selections with a sufficient understanding of the features of each block.

**D. Supply and exhaust block** \* When placing an order for station expansion, tie rods (2 pcs) are attached.

The supply and exhaust block can be installed at any position adjacent to the valve block.

As there is no set number of units, install two or more units when necessary to increase the flow rate for supply and exhaust.

In order to prevent foreign matter from entering, port P is equipped with a filter.



A Type (*1)		B Port size (port P/R) (*2)		C Exhaust method (*3)		D Option (partition type) (*4)		E Voltage	
Q	Internal pilot	8	ø8 push-in fitting	Blank	Common exhaust	Blank	Without partition	Blank	DC connector relay board specifications
QZ	Multi-pressure circuit	10	ø10 push-in fitting	X	Atmospheric release	SA	P/R/PA/PR blocked	AC	Without AC connector relay board
						S	P/R blocked, PA/PR through		

\*1: QZ cannot be used independently. Be sure to use with another type (Q).

\*2: In order to prevent foreign matter from entering, port P is equipped with a filter.

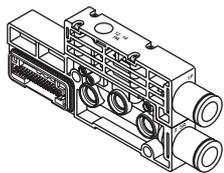
\*3: The atmosphere release (X) discharges exhaust from the end block. Select the atmosphere release type end block (EX) for X.

\*4: Specify when integrating partition into the supply and exhaust block. Width of the manifold with multi-pressure can be reduced. In the manifold specifications sheet, specify the mounting position so that the partition is on the left and the supply and exhaust block is on the right.

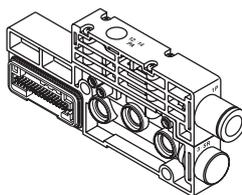
\*5 Select "AC" for individual wiring manifold since it does not need a DC connector relay PCB. Blank is also allowed.

[For DC]

NW4G2-Q-10-FP1



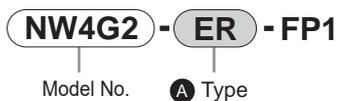
NW4G2-Q-10X-FP1



\* Refer to page 191 for circuit diagrams.

### E. End block

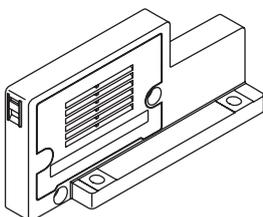
An exhaust muffler is built into the atmosphere release type.



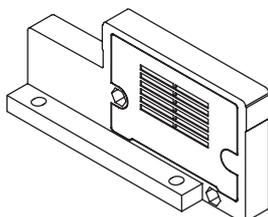
A Type (*1)	
EL	Common exhaust Left
ER	Common exhaust Right
EXL	Atmospheric pressure release Left
EXR	Atmospheric pressure release Right

\*1: An exhaust muffler is built into the atmosphere release type (EX).

NW4G2-ER-FP1

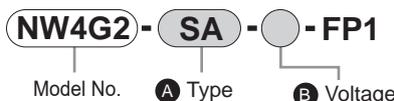


NW4G2-EL-FP1



### F. Partition block

\* When placing an order for station expansion, tie rods (2 pcs) are attached.

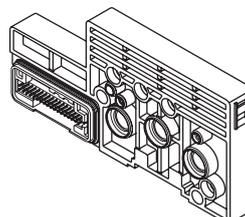


A Type (*1)		B Voltage	
SA	P/R/PA/PR blocked	Blank	DC connector relay board specifications
S	P/R blocked, PA/PR through	AC	Without AC connector relay board

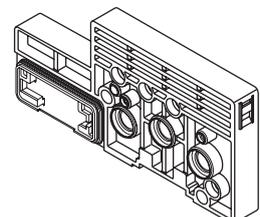
\*1 For blocks other than SA, the PA, PR path of the pilot pressure is not sealed. Take note when configuring the system.

\*2 Select "AC" for individual wiring manifold since it does not need a DC connector relay PCB. Blank is also allowed.

[For DC]  
NW4G2-S-FP1

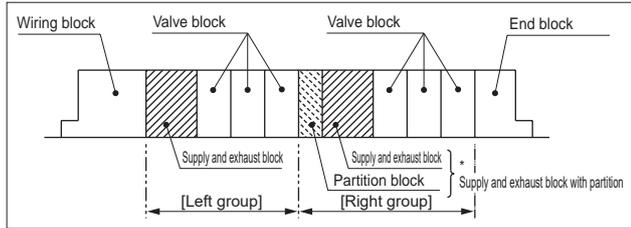


[For AC]  
NW4G2-S-AC-FP1



## Piping

### Notes on configuring manifold



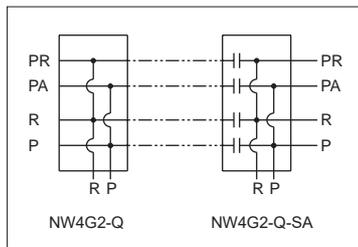
- The selected supply and exhaust block determines internal or external pilot operated. Valve block is the same for both types.
- Multi-pressure type can be included when a partition block is combined with the supply and exhaust block.
- Using a supply and exhaust block with partition that combines the supply and exhaust function and partition in a single block can reduce the manifold width.
- Mount the supply and exhaust block with partition so that the partition is on the left and the supply and exhaust part is on the right with the piping port being on the near side.

### System configurations by block combination

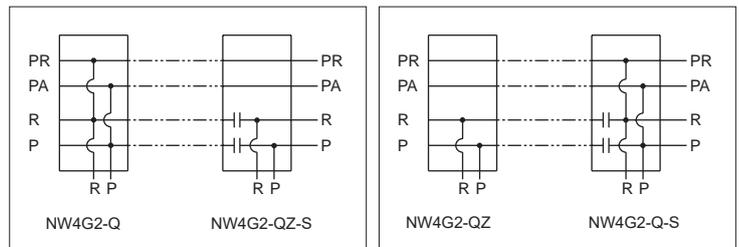
- Combine the partition block and supply and exhaust block or use the supply and exhaust block with partition to configure the desired pneumatic system. As some combinations may cause malfunction depending on the configuration, check the function of each block before actual implementation.
- Use the configuration examples below as a guide. (Supply and exhaust block with partition is used in the examples.)

#### Configuration for internal pilot (circuit code)

① Two supply pressures within the working pressure (0.2 to 0.7 MPa)



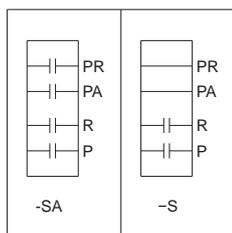
② Supply pressure within the working pressure (0.2 to 0.7 MPa) and supply pressure of low pressure (0.2MPa or less) or low vacuum



\* QZ side is the low pressure or low vacuum circuit side.

\* In the low vacuum circuit, port R is the vacuum side and port P is open to atmosphere or pressurized.

### Partition specifications (partition block)



Electric actuator	Pneumatic cylinders	Assistive device	Pneumatic valves	FR/L Auxiliary Components Electronic Component	Vacuum components	Main line components	Fluid control valves	Main line components	Anti-bacterial/bacteria-removing filter	Vacuum components	Fluid control valves
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# NW4G-FP1 Series

## Block manifold;Piping

### Piping

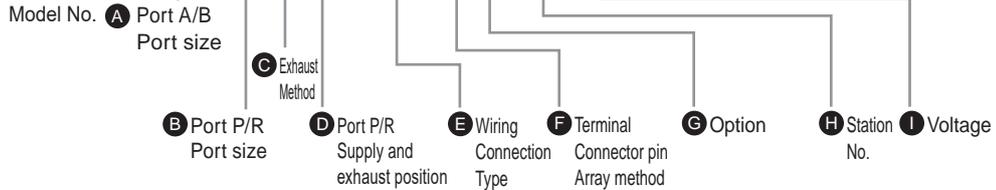
#### G. Manifold base

Manifold base alone may be ordered. However, specifications are limited.  
(The manifold specifications sheet is not necessary when ordering only the manifold base.)

Body piping: **MW4GA2** - **10** - **U** - **R 1** - **5** - **3** - **FP1**

Base side piping: **MW4GB2** - **C8** - **10** - **U** - **T10 W** - **5** - **3** - **FP1**

Base bottom piping: **MW4GZ2** - **C8** - **10** - **U** - **T10 W** - **5** - **3** - **FP1**



A Port A/B Port size		B P/R Port Port size		C Exhaust method		D P/R Port Supply and exhaust position		E Wiring method Note2 (including standard lamp and surge suppressor)		F Terminal connector pin Array method	
C6	ø6 push-in fitting	8	ø8 push-in fitting	Blank	Common exhaust	D	Left	R 1	Individual wiring I/O cable outlet	W	Double wiring
C8	ø8 push-in fitting	10	ø10 push-in fitting	X	Atmospheric release	U	Right	T10	Common terminal block (M3 screw) Left-sided spec.		

\*1 In the case of X, the end block is an atmosphere release (EX).

G Option		H Station No.		I Voltage	
Blank	No option	2	2 stations	1	100 VAC (rectifier integrated) (Made to order)
F	Port A/B filter integrated *4	to	to	3	24 VDC
		16	16 stations	4	12 VDC (Made to order)

\*3: I/O block cannot be selected.

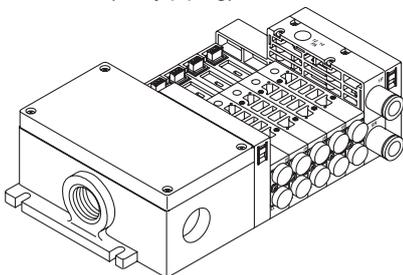
\*4: A filter is built into port P.

\*5: Differs depending on the reduced wiring specifications. Note that double wiring is applied to those other than the R1 wiring method. Refer to (pages 195, 197, 199 and 205).

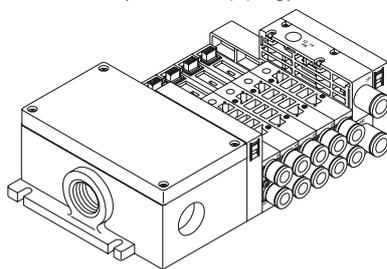
T7EC1	Serial transmission	16-point output (NPN)
T7ECP1	Thin	16-point output (PNP)
T7EC2	EtherCAT	32-point output (NPN)
T7ECP2		32-point output (PNP)
T7EN1	Serial transmission	16-point output (NPN)
T7ENP1	Thin	16-point output (PNP)
T7EN2	EtherNet/IP	32-point output (NPN)
T7ENP2		32-point output (PNP)
T7EB1	Serial transmission	16-point output (NPN)
T7EBP1	Thin CC-Link	16-point output (PNP)
T7EB2	IEF Basic	32-point output (NPN)
T7EBP2		32-point output (PNP)
T7EP1	Serial transmission	16-point output (NPN)
T7EPP1	thin	16-point output (PNP)
T7EP2	PROFINET	32-point output (NPN)
T7EPP2		32-point output (PNP)
T7G1	Serial transmission	16-point output (NPN)
T7GP1	Thin	16-point output (PNP)
T7G2	CC-Link	32-point output (NPN)
T7GP2		32-point output (PNP)
T7D1	Serial transmission	16-point output (NPN)
T7DP1	Thin	16-point output (PNP)
T7D2	DeviceNet	32-point output (NPN)
T7DP2		32-point output (PNP)
T8G1	Serial transmission	16-point output
T8G2	CC-Link	32-point output
T8D1	Serial transmission	16-point output
T8D2	DeviceNet	32-point output

\*2 100 VAC is only for common terminal block specifications. The serial transmission connection specifications There are no settings for 100 VAC and 12 VDC.

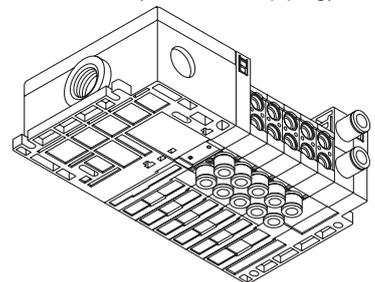
MW4GA2 (Body piping)



MW4GB2 (Base side piping)



MW4GZ2 (Base bottom piping)



# NW4G-FP1 Series

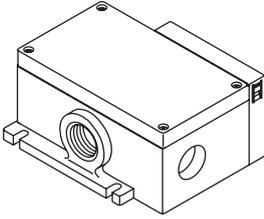
Block manifold;Wiring

## Wiring

(Wiring block) \* Wiring block cannot be ordered as a separate item.

### H. Common terminal box (T10)

NW4G2-T10\*-FP1

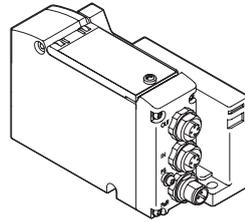


### L. Serial transmission block

#### ● EtherCAT(T7EC\*)

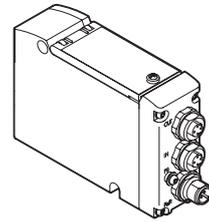
(When ordered as manifold component and combined with I/O block, an end block is mounted on the left of the I/O block as standard.)

NW4G2 - T7EC1 - FP1



A Type

W4G - OPP8 - 1EC - FP1



A Type

#### A Type

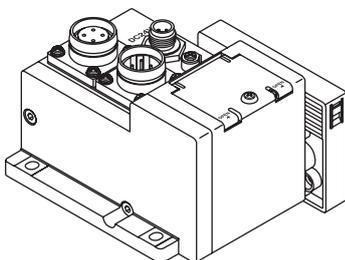
T7EC1	16 point output (NPN valve output)
T7ECP1	16-point output (PNP valve output)
T7EC2	32 point output (NPN valve output)
T7ECP2	32 point output (PNP valve output)
T7ECB7	16-point I/O (NPN valve output)
T7ECPB7	16-point I/O (PNP valve output)
T7EN1	16 point output(NPN valve output)
T7ENP1	16-point output (PNP valve output)
T7EN2	32 point output (NPN valve output)
T7ENP2	32 point output (PNP valve output)
T7ENB7	16-point I/O (NPN valve output)
T7ENPB7	16-point I/O (PNP valve output)
T7EB1	16-point output (NPN valve output)
T7EBP1	16-point output (PNP valve output)
T7EB2	32-point output (NPN valve output)
T7EBP2	32-point output (PNP valve output)
T7EBB7	16-point I/O (NPN valve output)
T7EBPB7	16-point I/O (PNP valve output)
T7EP1	16-point output (NPN valve output)
T7EPP1	16-point output (PNP valve output)
T7EP2	32-point output (NPN valve output)
T7EPP2	32-point output (PNP valve output)
T7EPB7	16-point I/O (NPN valve output)
T7EPPB7	16-point I/O (PNP valve output)
T7G1	16 point output(NPN valve output)
T7GP1	16-point output (PNP valve output)
T7G2	32 point output (NPN valve output)
T7GP2	32 point output (PNP valve output)
T7GB7	16-point I/O(NPN valve output)
T7GPB7	16-point I/O (PNP valve output)
T7D1	16 point output(NPN valve output)
T7DP1	16-point output (PNP valve output)
T7D2	32 point output (NPN valve output)
T7DP2	32 point output (PNP valve output)
T7DB7	16-point I/O(NPN valve output)
T7DPB7	16-point I/O (PNP valve output)

#### A Type

1EC	T7EC1	16 point output(NPN valve output)
1EC-P	T7ECP1	16-point output (PNP valve output)
2EC	T7EC2	32 point output (NPN valve output)
2EC-P	T7ECP2	32 point output (PNP valve output)
7EC-B	T7ECB7	16-point I/O(NPN valve output)
7EC-PB	T7ECPB7	16-point I/O (PNP valve output)
1EN	T7EN1	16 point output(NPN valve output)
1EN-P	T7ENP1	16-point output (PNP valve output)
2EN	T7EN2	32 point output (NPN valve output)
2EN-P	T7ENP2	32 point output (PNP valve output)
7EN-B	T7ENB7	16-point I/O(NPN valve output)
7EN-PB	T7ENPB7	16-point I/O (PNP valve output)
1EB	T7EB1	16-point output (NPN valve output)
1EB-P	T7EBP1	16-point output (PNP valve output)
2EB	T7EB2	32-point output (NPN valve output)
2EB-P	T7EBP2	32-point output (PNP valve output)
7EB-B	T7EBB7	16-point I/O (NPN valve output)
7EB-PB	T7EBPB7	16-point I/O (PNP valve output)
1EP	T7EP1	16-point output (NPN valve output)
1EP-P	T7EPP1	16-point output (PNP valve output)
2EP	T7EP2	32-point output (NPN valve output)
2EP-P	T7EPP2	32-point output (PNP valve output)
7EP-B	T7EPB7	16-point I/O (NPN valve output)
7EP-PB	T7EPPB7	16-point I/O (PNP valve output)
1G	T7G1	16 point output(NPN valve output)
1G-P	T7GP1	16-point output (PNP valve output)
2G	T7G2	32 point output (NPN valve output)
2G-P	T7GP2	32 point output (PNP valve output)
7G-B	T7GB7	16-point I/O (NPN valve output)
7G-PB	T7GPB7	16-point I/O (PNP valve output)
1D	T7D1	16 point output(NPN valve output)
1D-P	T7DP1	16-point output (PNP valve output)
2D	T7D2	32 point output (NPN valve output)
2D-P	T7DP2	32 point output (PNP valve output)
7D-B	T7DB7	16-point I/O (NPN valve output)
7D-PB	T7DPB7	16-point I/O (PNP valve output)

#### ● CC-Link(T8G\*)

NW4GA2-T8G\*-FP1



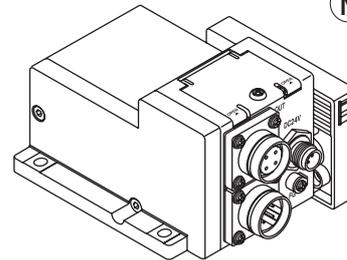
NW4GA2 - T8G1 - FP1

A Type

#### A Type

T8G1	16 point output
T8G2	32 point output
T8G7	16 point input/16 point output

NW4GB2-T8G\*-FP1



NW4GB2 - T8G1 - FP1

A Type

#### A Type

T8G1	16 point output
T8G2	32 point output
T8G7	16 point input/16 point output

Electric actuator  
Pneumatic cylinders  
Assistive device  
Pneumatic valves  
FRL/Auxiliary Components Electronic Component  
Vacuum components  
Main line components  
Fluid control valves  
Main line components  
Anti-bacterial/bacteria-removing filter  
Vacuum components  
Fluid control valves

FP1

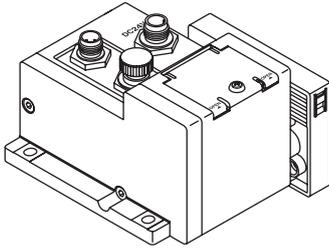
FP2

# NW4G-FP1 Series

Block manifold; Related products

● Device Net (T8D\*)

NW4GA2-T8D\*-FP1

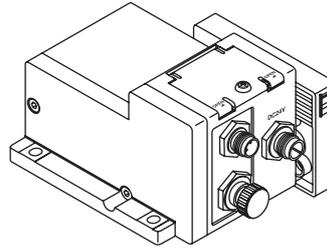


**NW4GA2 - T8D1 - FP1**

**A** Type

A Type	
T8D1	16 point output
T8D2	32 point output
T8D7	16 point input/16 point output

NW4GB2-T8D\*-FP1



**NW4GB2 - T8D1 - FP1**

**A** Type

A Type	
T8D1	16 point output
T8D2	32 point output
T8D7	16 point input/16 point output

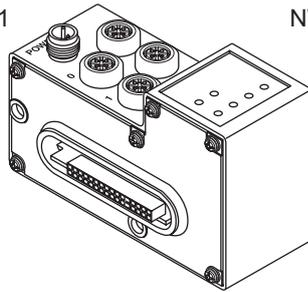
M. I/O block \* When placing an order for station expansion, tie rods (2 pcs) are attached.

Top wiring: **NW4GA2 - IN - N - K - FP1**

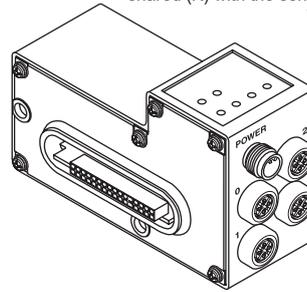
Side wiring: **NW4GB2 - OUT - N - B - FP1**



NW4GA2- IN - N - K - FP1  
OUT - P - B - FP1



NW4GB2- IN - N - K - FP1  
OUT - P - B - FP1



A I/O		B I/O type		C Power supply	
IN	Input	N	Sink	K	Syria(k) Common with transmission slave unit*1, *2
OUT	Output	P	Source	B	External power supply

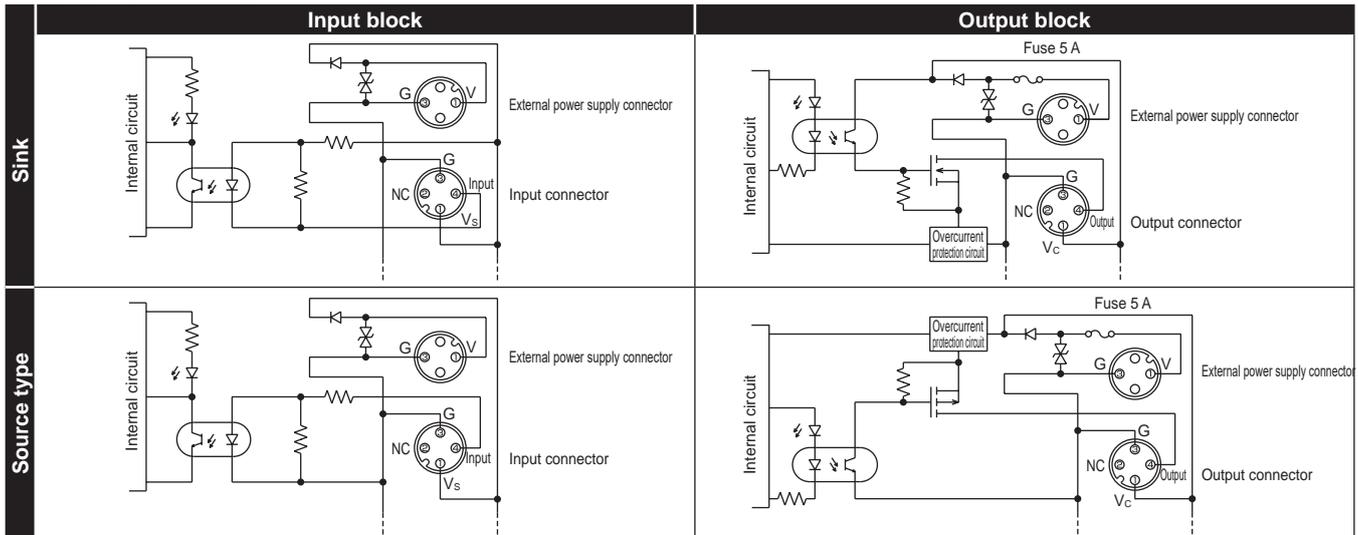
\*1 Output block can be used with external power supply (B) only.

\*2 A waterproof cap is attached as standard to the power supply connector of the power slave supply shared (K) with the serial transmission slave unit.

\* When serial transmission slave unit is T7, all are side wiring.

\* When ordered as manifold component and combined with I/O block, an end block is mounted on the left as standard.

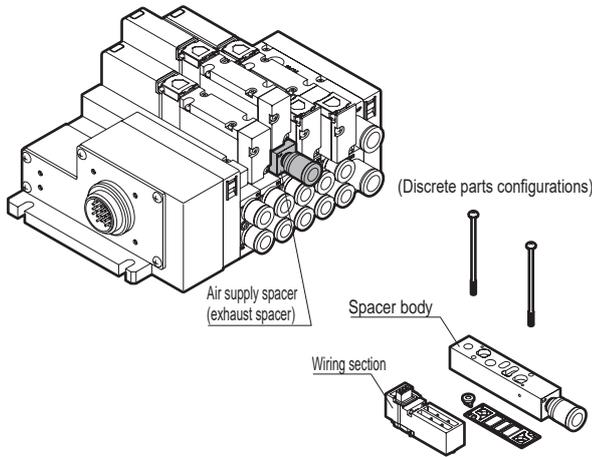
I/O type [Simplified circuit]



\* For the wiring method, refer to "Pneumatic Valves (CB-023SA)".

## Related products

### ● Air supply spacer/exhaust spacer



## Specifications

### ● Air supply spacer

Model No.	P → A/B		A/B → R		Weight g
	C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b	
W4G2-P-*-FP1	1.8	0.20	1.6	0.15	60

Note: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

### ● Exhaust spacer

Model No.	P → A/B		A/B → R		Weight g
	C[dm <sup>3</sup> /(s·bar)]	b	C[dm <sup>3</sup> /(s·bar)]	b	
W4G2-R-*-FP1	1.9	0.20	1.5	0.21	60

Note: Effective cross-sectional area S and sonic conductance C are converted as  $S \approx 5.0 \times C$ .

### ● Discrete air supply spacer model No.

W4G2 - P - **GWS6** - FP1

A Type

B Port size

### ● Discrete exhaust spacer model No.

W4G2 - R - **GWS6** - FP1

A Port size

Code	Description
<b>A Type</b>	
Blank	Internal pilot
<b>B Port size</b>	
	Bore size      Description
Blank	Rc1/8
GWS6	ø6      With GWS6-6-S-FP1
GWS8	ø8      With GWS8-6-S-FP1
<b>A Port size</b>	
	Bore size      Description
Blank	Rc1/8
GWS6	ø6      With GWS6-6-S-FP1
GWS8	ø8      With GWS8-6-S-FP1
SLW	With silencer (SLW-6S)

## ⚠ Precautions for model No. selection

- \*1: Specify the spacer built-in positions and quantity for manifolds in the manifold specifications sheet (Pages 223 to 226).
- \*2: Stacking of spacers is not possible.
- \*3: A spacer cannot be combined with a masking plate.

Electric actuator  
 Pneumatic cylinders  
 Assistive device  
 Pneumatic valves  
 FRL/Auxiliary Components  
 Electronic Component  
 Vacuum components  
 Main line components  
 Fluid control valves  
 Main line components  
 Anti-bacterial/bacteria-removing filter  
 Vacuum components  
 Fluid control valves

FP1

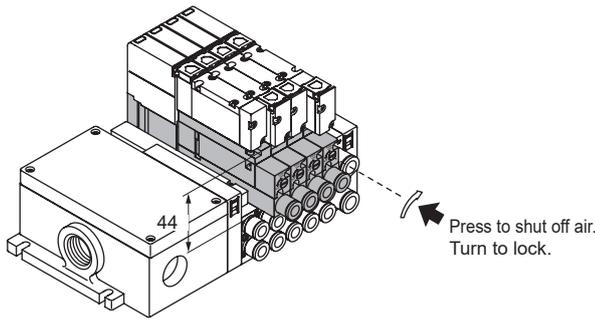
FP2

# NW4G-FP1 Series

Block manifold; Related products

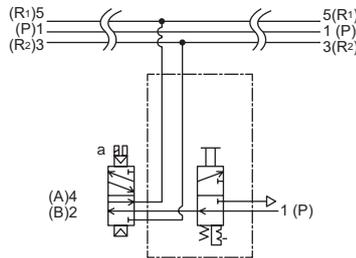
- Individual air supply compatible spacer with in-stop valve spacer

## Specifications



Item	W4G2-PIS	
Working fluid	Compressed air	
Max. working pressure	MPa	0.7
Min. working pressure	MPa	0.2
Proof pressure	MPa	1.05
Flow characteristics C	dm <sup>3</sup> /(s·bar)	1.1
Ambient temperature	°C	-5 to 55 (no freezing)
Working fluid temperature	°C	5 to 55
Lubrication	Not required	
Atmosphere	Cannot be used in corrosive gas environment.	
Weight	g	115.4

## JIS symbol



## How to order discrete units

**W4G2 - PIS - GWS6 - FP1**

Model No.    With in-stop valve spacer  
                   Individual air supply spacer

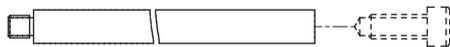
Code	Description
<b>A</b> Port size	
GWS6	ø6 fitting
GWS8	ø8 fitting

## ⚠ Precautions for model No. selection

- \*1: Specify the spacer positions in the manifold specifications sheet.
- \*2: Stacking of spacers is not possible.
- \*3: A spacer cannot be combined with a masking plate.

**Related products** Tie rod, silencer, blanking plug, masking plate kit, DIN rail and DIN rail mounting bracket kit

- Tie rod



**W4G2 - TR - V1 - FP1**

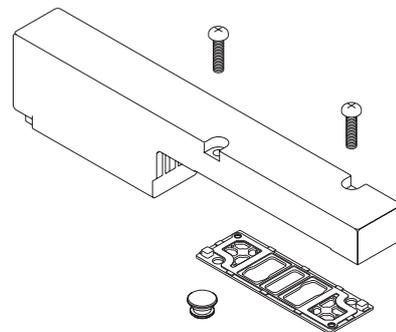
Model No.    **A** Type

### **A** Type

<b>V1</b>	For 1-station valve block (2)
<b>Q</b>	For supply and exhaust block (2)
<b>S</b>	For partition block (2)
<b>M</b>	For I/O block (2)

- Masking plate kit

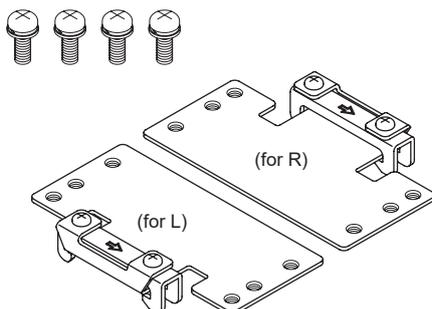
W4G2-MP-FP1



\* Kit includes a masking plate, gasket, PR plug and two mounting screws

- DIN rail mounting bracket kit

W4G2-D-FP1



\* One DIN rail mounting bracket kit set is for one manifold.  
 (A kit includes two mounting brackets and four mounting screws.)