

MN3S0/MN4S0

Pilot operated 3, 4-port valve

Pneumatic valve

PLC-compatible reduced wiring block manifold

Overview

The MN4S0 Series is a PLC compatible reduced wiring 3, 4-port solenoid valve which employs the single side solenoid system where lead wires are concentrated in one direction.

Suitable for operating cylinders of $\varnothing 20$ to $\varnothing 40$.

Features

Significant reduction of space for installation

A valve block with two 3-port valves integrated has been newly added to the series. It is possible to configure a highly integrated and space saving 3-port valve block manifold.

Easy wiring

With the D sub-connector and flat cable connector, the connector portion rotates by 90° and enables upward and lateral wiring.

Sleek design

Manual override and light display unit concentrated on the top surface. Maintenance is easy.

Employs the single side solenoid method. Exhaust muffler built in.

Top surface designed to be flat.

A sleek design with no protrusions or dents.

Energy saving

Low wattage design (25 mA with 24 VDC)

Selectable reduced wiring methods

The serial transmission method, connector method, and common terminal block method are available.



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⚠ Always read the precautions in the Introduction and on page 1228 before use.

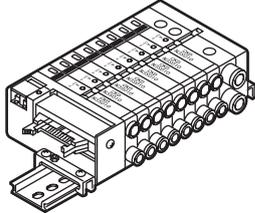
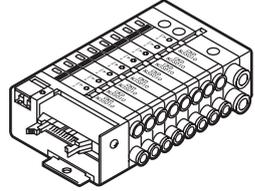
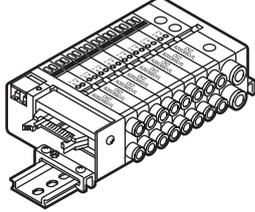
4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

Series variation

Discontinue

MN3SO/MN4SO Series

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E MN4E
- W4GA/B2
- W4GB4
- MN3SO MN4SO**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G GMF
- PV5 GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV HSV
- 2QV 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

Series external appearance	Model No.		Position	Number of solenoids	JIS symbol	Valve performance		Voltage (V)
						Flow characteristics C [dm ³ /(s·bar)] *1	Applicable cylinder bore size	
 <p>MN3SO/MN4SO</p>	3-port	MN3SO	DIN rail mount	3-port valve	<ul style="list-style-type: none"> ● 2-position Normally closed ● 2-position Normally open 	0.57 to 0.80	ø20 to ø40	24 DC 12 DC
	4-port	MN4SO						
	 <p>MT3SO/MT4SO</p>	3-port	MT3SO	Direct mounting (Limited to 8 stations)	<ul style="list-style-type: none"> ● 2-position double ● 3-position All ports closed ● 3-position ABR connection ● 3-position PAB connection 			
		4-port	MT4SO					
 <p>MN3SO</p> <p>A valve block with two 3-port valves integrated in one station.</p>	3-port	MN3SO	DIN rail mount	Two 3-port valves integrated	<ul style="list-style-type: none"> ● NC/NC (N3S0660) B side: NC A side: NC ● NC/NO (N3S0670) B side: NO A side: NC ● NO/NC (N3S0760) B side: NC A side: NO ● NO/NO (N3S0770) B side: NO A side: NO 	0.50	ø20 or less	24 DC 12 DC
		MT3SO		Direct mounting (Limited to 8 stations)				

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

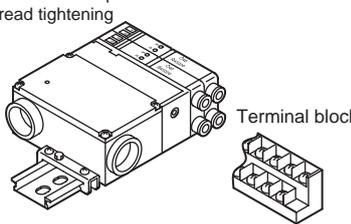
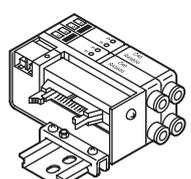
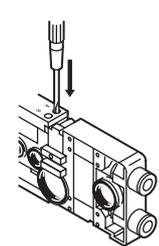
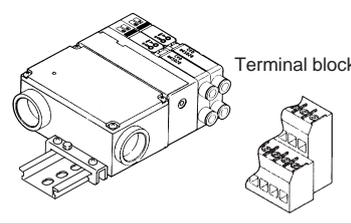
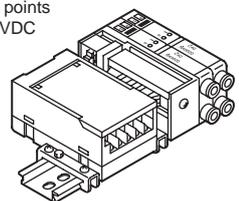
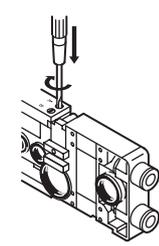
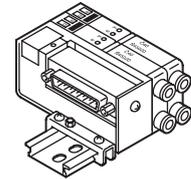
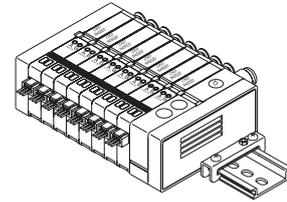
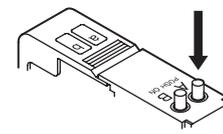
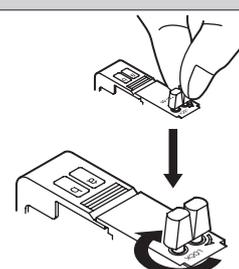
*1: Effective cross-sectional area S and sonic conductance C are converted as $S \approx 5.0 \times C$.

	Switching position											Port size of A/B port			Wiring method					Page
	3-port valve/4-port valve						Two 3-port valves integrated					Push-in fitting	Female thread	Common terminal block	D sub-connector	Flat cable	Serial transmission	Individual wiring connector		
	2-position single	2-position double	3-position all ports closed	3-position A/B/R connection	3-position P/A/B connection	2-position single N.C.	2-position single N.O.	A side NC B side NC	A side NC B side NO	A side NO B side NC	A side NO B side NO								Mix	
					●	●					●	●	●	●	●	●	●	●	●	1196
	●	●	●	●							●	●	●	●	●	●	●	●	●	1196
					●	●					●	●	●	●	●	●			●	1196
	●	●	●	●							●	●	●	●	●	●			●	1196
								●	●	●	●	●	●	●	●	●	●	●	●	1196
								●	●	●	●	●	●	●	●	●			●	1196

* Refer to the following page for details on wiring method/other options.

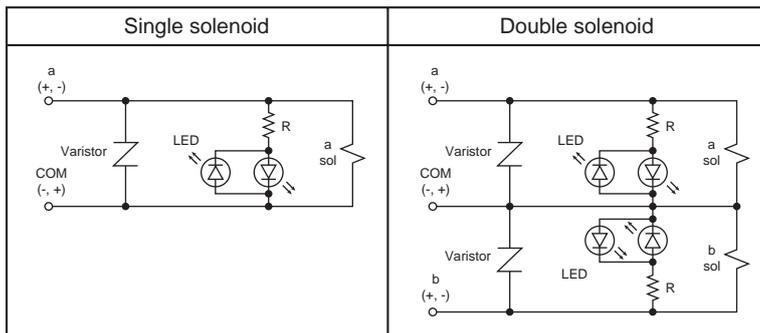
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0**
- MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

MN3S0/MN4S0 Series

	Wiring method	Manual operating device	
4GA/B M4GA/B MN4GA/B	<p>T10 Common terminal block (left-side mount) T10R Common terminal block (right-side mount)</p> <ul style="list-style-type: none"> Common wires are processed beforehand M3 thread tightening 	<p>T50 Flat cable connector (right-side mount) T50R Flat cable connector (left-side mount)</p> <ul style="list-style-type: none"> Widely utilized with FA and OA equipment Compliant with MIL standards (MIL-C-83503) 20P, dedicated for 12/24 VDC 	<p>Blank Non-locking</p> 
4GA/B (master) 4GB With sensor 4GD/E M4GD/E MN4GD/E	<p>T11 Common terminal block (left-side mount) T11R Common terminal block (right-side mount)</p> <ul style="list-style-type: none"> Common wires are processed beforehand Press tightening 	<p>T6G1 Serial transmission</p> <ul style="list-style-type: none"> Supports various PLC manufacturers (Mitsubishi Electric Corporation) Output points: 16 points Dedicated for 24 VDC 	<p>M1 Locking (tools required)</p> 
MN3S0 MN4S0	<p>T30 D sub-connector (left-side mount) T30R D sub-connector (right-side mount)</p> <ul style="list-style-type: none"> Widely utilized with FA and OA equipment Specified connector of the RS232C standards 25P, dedicated for 24 VDC, 12 VDC 	<p>C Individual wiring connector with lead wire</p> <ul style="list-style-type: none"> Lead wire length C : 300 mm C0: 500 mm C1: 1000 mm C2: 2000 mm 	<p>M2 Non-locking Convex type</p> 
4SA/B0 4KA/B 4KA/B (master) 4F 4F (master) PV5G GMF PV5 GMF PV5S-0 3Q	<p>M3 Locking protrusion type</p> 		

Internal circuit diagram with surge suppressor/indicator

* Varistor is used as a surge suppressor.



Discontinue

MEMO

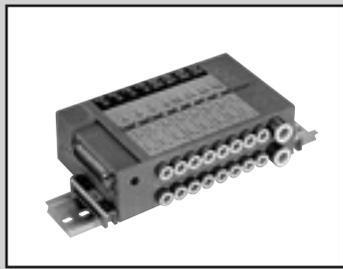
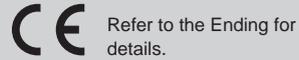
4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

Discontinue

Reduced wiring block manifold
Pilot operated 3, 4-port valve

MN3S0/MN4S0 Series

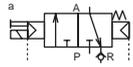
● Cylinder bore size: $\varnothing 20$ to $\varnothing 40$



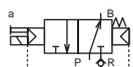
JIS symbol

● 3-port valve

2-position single NC

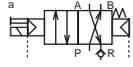


2-position single NO

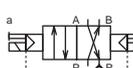


● 4-port valve

2 position single



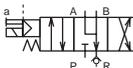
2-position double



3-position all ports closed



3-position A/B/R connection

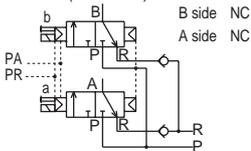


3-position P/A/B connection

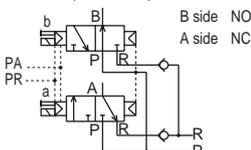


● 3 PoTwo -valves integrated

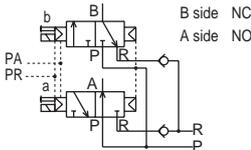
NC/NC (N3S0660)



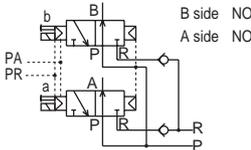
NC/NO (N3S0670)



NO/NC (N3S0760)



NO/NO (N3S0770)



Common specifications

Item	Description
Manifold method	DIN rail mount Direct mounting (limited to 8 stations)
Manifold	ShuMedium exhaust, common supplyqi
Station No.	1Stations and up (refer to wiring specifications on next page)
Valve and operation	Pilot operated soft spool valve
Working fluid	Compressed air
Max. working pressure MPa	0.70
Min. working pressure MPa	0.20 (Main pressure is 0 when using an external pilot)
Proof pressure MPa	1.05
Ambient temperature °C	5 to 50
Fluid temperature °C	5 to 50
Lubrication	Not required
Degree of protection	Dust-proof
Vibration resistance m/s ²	50 or less
Shock resistance m/s ²	300 or less
Atmosphere	Cannot be used in corrosive gas environment.

Individual specifications

Port Item	3-port valve	4-port valve	*1 3-port valve Two valves integrated
A/B port	$\varnothing 4$, $\varnothing 6$ push-in fitting, M5	$\varnothing 4$, $\varnothing 6$ push-in fitting, M5	$\varnothing 4$, $\varnothing 6$ push-in fitting, M5
P/R port	$\varnothing 8$, $\varnothing 6$ push-in fitting	$\varnothing 8$, $\varnothing 6$ push-in fitting	$\varnothing 8$, $\varnothing 6$ push-in fitting
External pilot port	$\varnothing 6$ push-in fitting	$\varnothing 6$ push-in fitting	-

*1: The two 3-port valves integrated valve block uses main pressure to operate the valving element, and therefore cannot be used with external pilot. Check for sufficient supply air flow that the supply pressure does not drop below the min. working pressure due to the operation of the connected load (air operated valve), etc.

Performance/characteristics by model

Port Item	3-port valve	4-port valve	3-port valve Two valves integrated
Response time (*1) ms	2nd placeMounting 20 or less	20 or less	20 or less
	3rd placeMounting -	30 or less	-

*1: The response times are values with supply pressure of 0.5MPa, without lubrication, and with the power ON. They depend on the pressure and the lubricant quality.

Flow characteristics

Item	C[dm ³ /(s·bar)]	b
3-port valve	2-position	0.80
	2-position	0.80
4-port valve	All ports closed	0.57
	A/B/R connection	0.80
	P/A/B connection	0.60
Two 3-port valves integrated	2-position	0.50

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

*2: The flow characteristics are values with the exhaust check valve (standard).

Ozone-proof specifications (Ending Page 5)

CE marking specifications

** - Voltage - P11

** - Voltage - ST

• Standard voltage of 24 VDC or less is CE marking-compatible even if the model No. is not indicated with "ST".

Slave unit specifications (Refer to page 1216 for the applicable PLC compatibility table.)

Item	T6G1
Unit side power voltage	24 VDC ±10%
Valve side power voltage	24 VDC +10%, -5%
Unit side current consumption	100 mA or less (when all output points are ON)
Valve side Current	15 mA or less (when all points are OFF)
Output points	16 points

*1: CC-Link Ver. 1.10.

Manifold wiring specifications (*1)

Item	Description	Max. station No.			
		Double solenoid	Single solenoid	Mix manifold (No. of solenoid valves)	
Common terminal block	T10 (for left side) T10R (for right side)	Terminal thread size M3	7 stations	14 stations	14 points
	T11 (for left side) T11R (for right side)	26 pole press tightening	12 stations	24 stations	24 points
	T30 (for left side) T30R (for right side)	D sub-connectors (25 terminals) compliant with MIL standards	12 stations	24 stations	24 points
	T50 (for left side) T50R (for right side)	Crimping connector MIL-C-83503 standard compliant Flat cable 1.27 mm pitch 20 strands	8 stations	16 stations	16 points
D sub-connector (25P)	T30 (for left side) T30R (for right side)	D sub-connectors (25 terminals) compliant with MIL standards	12 stations	24 stations	24 points
Flat cable Connector (20P)	T50 (for left side)	Crimping connector MIL-C-83503 standard compliant	8 stations	16 stations	16 points
	T50R (for right side)	Flat cable 1.27 mm pitch 20 strands			
Serial transmission (with dedicated unit)	T6G1	CC-Link compatible	8 stations	16 stations	16 points
Individual wiring connector (double is common)	C	Individual connector lead wire length 300 mm	-	-	-
	C0	Individual connector lead wire length 500 mm	-	-	-
	C1	Individual connector lead wire length 1000 mm	-	-	-
	C2	Individual connector lead wire length 2000 mm	-	-	-

*1: Consult with CKD to use a number of manifold stations greater than the max. station number for each reduced wiring specification.

Weight

Wiring block	Item	Common terminal block T10(R) / T11(R)	D sub-connector T30(R)	Flat cable connector T50(R)	Serial transmission T6G1	
Supply and exhaust block	Item	Q	QK	QZ	QKZ	
	Weight (g)	48	53	48	60	
Partition block	Item	S	SA	SP	SE	
	Weight (g)	20	20	20	20	
Valve block	Item	N4S010	N4S020	N4S030/040/050	N3S010/110	N3S0**0
	Weight (g)	50	55	58	46	55
End block	Item	E (EL)	EX (EXL)			
	Weight (g)	50	50			
DIN rail	Item	-				
	Weight (g)	0.19 g/mm				

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

How to order manifold D sub/flat cable connector, individual wiring C-connector

● Discrete valve block



● Block manifold



● Regulator block equipped manifold

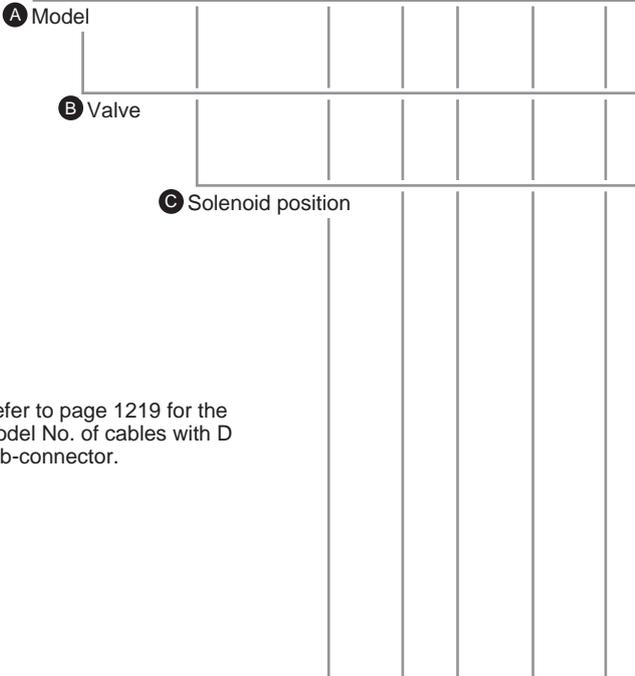


*1: Be sure to fill in the "manifold specifications sheet" (pages 1225 to 1227).

Consult with CKD when ordering regulator block mounting manifold. (Technical confirmation No. is required)

Type	
Block manifold	Discrete valve block
●	●

Code	Description	Block manifold	Discrete valve block
A Model			
N	DIN rail mount	●	●
T	Direct mounting method (valve block limited to 8 stations)	●	●
B Valve			
3	3-port valve, two 3-port valves integrated (*2)	●	●
4	4-port valve or 3, 4-port valve mix	●	●
C Solenoid position			
1	2-position Normally Closed single	●	●
11	2-position Normally Open single	●	●
66	A side valve	●	●
	B side valve	●	●
67	A side valve	●	●
	B side valve	●	●
76	A side valve	●	●
	B side valve	●	●
77	A side valve	●	●
	B side valve	●	●
1	2-position single	●	●
	2-position double	●	●
3	3-position all ports closed	●	●
4	3-position A/B/R connection	●	●
5	3-position P/A/B connection	●	●
8	Mix manifold hold (when there are multiple solenoid positions)	●	●
D Port size			
C4	ø4 push-in fitting lateral	●	●
C6	ø6 push-in fitting lateral	●	●
CL4	ø4 push-in fitting upward	●	●
CL6	ø6 push-in fitting upward	●	●
M5	M5 female thread (with rotation-stop)	●	●
CX	Mix push-in fitting	●	●
E Manual override			
Blank	Non-locking manual override	Standard	●
M1	Locking manual override (tools required)	Option	●
M2	Non-locking protrusion	Custom order	●
M3	Locking protrusion		●
MX	Mix of manual override		●
F Wiring method			
T10	Common terminal block (M3 screw) for left side	●	●
T11	Common terminal block (press fastening) for left side	●	●
T30	D sub-connector (25P) for left side	●	●
T50	Flat cable connector (20P) for left side	●	●
T10R	Common terminal block (M3 screw) for right side	●	●
T11R	Common terminal block (press fastening) for right side	●	●
T30R	D sub-connector (25P) for right side	●	●
T50R	Flat cable connector (20P) for right side	●	●
Blank	For reduced wiring		●
C	Individual wiring connector lead wire length 300 mm	●	●
C0	Individual wiring connector lead wire length 500 mm	●	●
C1	Individual wiring connector lead wire length 1000 mm	●	●
C2	Individual wiring connector lead wire length 2000 mm	●	●
G Station No.			
1	1 station	Differs depending on the wiring specifications. (Check the wiring specifications (page 1197).)	●
to 24	to 24 stations		●
8	Direct mounting method		●
H Voltage			
3	24 VDC	●	●
4	12 VDC	●	●



● Refer to page 1219 for the model No. of cables with D sub-connector.

⚠ Precautions for model No. selection

*2: The two 3-port valves integrated cannot be used with the external pilot. Consult with CKD for other working conditions.

*3: For A/B port filter equipped models (to prevent entry of foreign matter), place an F at the end of the port size code. (Option)

*4: Wiring methods of the direct mounting method are limited to T10, T11, T30, and T50.

*5: The wiring blocks and valve blocks of the reduced wiring will be connected with a specially designed cable. As the connections are made in advance within the wiring block, specify spare cables when placing an order if it is expected that an expansion or change of specifications will take place. (With standard wiring, the unit will come with 2 cables included.)

Note Refer to page 1194 for circuit diagrams.

[Example of model No.] MN3S0660-C4-T10-6-3

Block manifold

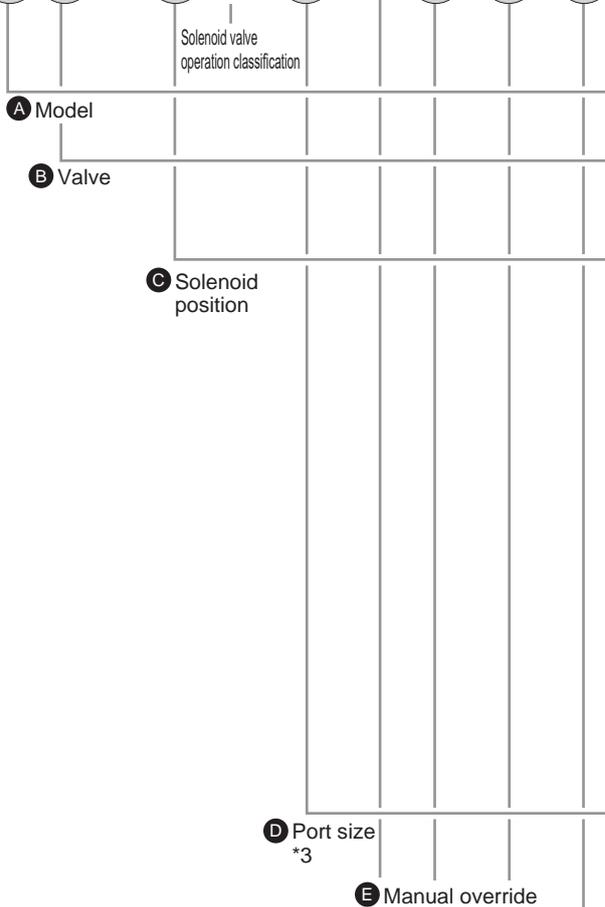
- A** Model No. : DIN rail mount
- B** Valve : Two 3-port valves integrated
- C** Solenoid position : A side valve: Normally Closed
B side valve: Normally Closed
- D** Port size : ø4 push-in fitting lateral (cylinder port)
- E** Manual override : Non-locking manual override
- F** Wiring method : Common terminal block (M3 screw)
- G** Manifold solenoid valve station No. : 6 stations
- H** Voltage : 24 VDC

How to order manifold Serial transmission

● Discrete valve block
N 4 S0 1 0 - C4 - M1 - 3

● Block manifold
M N 4 S0 1 0 - C4 - M1 T6G1 - 5 - 3

● Regulator block equipped manifold
M N 4 S0 1 0 - C4 - R - T6G1 - 5 - 3



*1: Be sure to fill in the "manifold specifications sheet" (pages 1225 to 1227).

		Type		
		Block manifold	Discrete valve block	
Code		Description		
A Model				
N	DIN rail mount	●		
B Valve				
3	3-port valve, two 3-port valves integrated (*2)	●	●	
4	4-port valve or 3, 4-port valve mix	●	●	
C Solenoid position				
1	2-position Normally Closed single	●	●	
11	2-position Normally Open single	●	●	
66	A side valve Normally Closed	●	●	
	B side valve Normally Closed	●	●	
67	A side valve Normally Closed	●	●	
	B side valve Normally Open	●	●	
76	A side valve Normally Open	●	●	
	B side valve Normally Closed	●	●	
77	A side valve Normally Open	●	●	
	B side valve Normally Open	●	●	
4-port valve	1	2-position single	●	●
	2	2-position double	●	●
	3	3-position all ports closed	●	●
	4	3-position A/B/R connection	●	●
	5	3-position P/A/B connection	●	●
8	Mix manifold (when there are multiple solenoid positions)	●		
D Port size				
C4	ø4 push-in fitting lateral	●	●	
C6	ø6 push-in fitting lateral	●	●	
CL4	ø4 push-in fitting upward	●	●	
CL6	ø6 push-in fitting upward	●	●	
M5	M5 female thread (with rotation-stop)	●	●	
CX	Mix push-in fitting	●		
E Manual override				
Blank	Non-locking manual override	Standard	●	●
M1	Locking manual override (tools required)	Option	●	●
M2	Non-locking protrusion	Custom order	●	●
M3	Locking protrusion		●	●
MX	Mix of manual override		●	
F Wiring method				
T6G1	Serial transmission (CC-Link compatible 16 points)	●		
G Station No.				
1	1 station	Differs depending on the wiring specifications.	●	
to	to			
16	16 stations	Check the wiring specifications (page 1197).		
H Voltage				
3	24 VDC	●	●	

⚠ Precautions for model No. selection

- *2: The two 3-port valves integrated cannot be used with the external pilot. Consult with CKD for other working conditions.
- *3: For A/B port filter equipped models (to prevent entry of foreign matter), place an F at the end of the port size code. (Option)
- *4: The wiring blocks and valve blocks of the reduced wiring will be connected with a specially designed cable. As the connections are made in advance within the wiring block, specify spare cables when placing an order if it is expected that an expansion or change of specifications will take place. (With standard wiring, the unit will come with 2 cables included.)

[Example of model No.]

MN3S010-C4-T6G1-6-3
 Block manifold

- A** Model No. : DIN rail mount
- B** Valve : 3-port valve
- C** Solenoid position : 2-position normally closed Single
- D** Port size : ø4 Push-in fitting lateral (Cylinder port)
- E** Manual override : Non-locking manual override
- F** Wiring method : Serial transmission (CC-Link compatible 16 points)
- G** Manifold solenoid valve station No. : 6 stations
- H** Voltage : 24 VDC

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

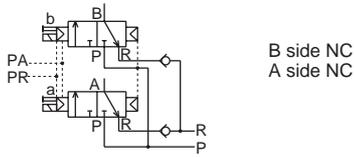
Reduced wiring block manifold (valve block); with two 3-port valves integrated

Internal structure and parts list

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E MN4E
- W4GA/B2
- W4GB4
- MN3S0 MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G GMF
- PV5 GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV HSV
- 2QV 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

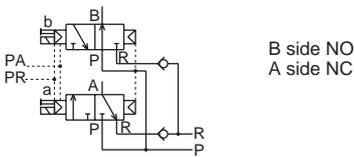
N3S0660

● (Two 3-port valves integrated NC/NC)



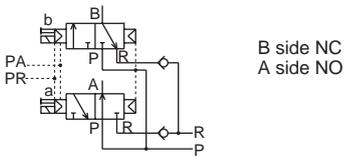
N3S0670

● (Two 3-port valves integrated NC/NO)



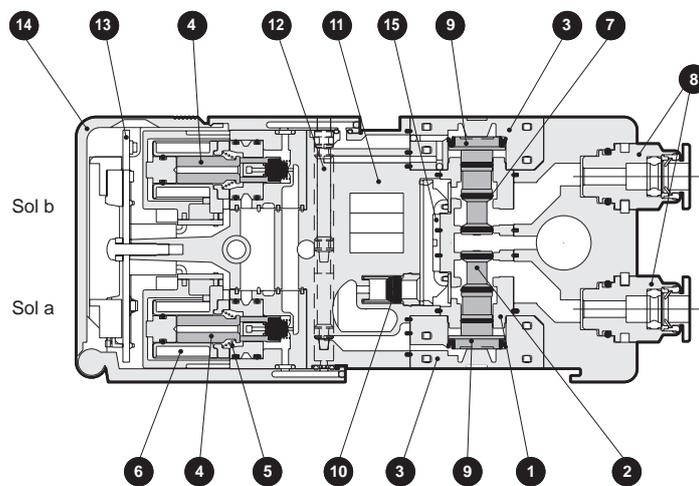
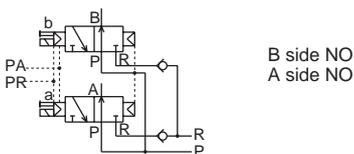
N3S0760

● (Two 3-port valves integrated NO/NC)



N3S0770

● (Two 3-port valves integrated NO/NO)



The figure shows the two 3-port valve integrated NC/NC in a state with solenoids OFF on both sides.

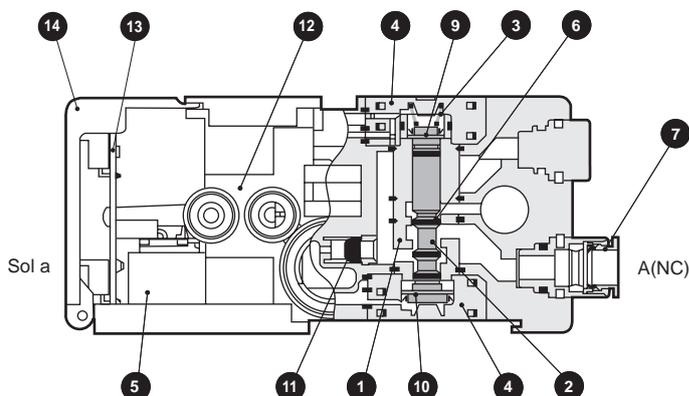
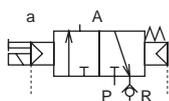
Main parts list

No.	Part name	Material	No.	Part name	Material
1	Body	Aluminum alloy	9	Piston D assembly	-
2	Valving element (spool)	Aluminum alloy	10	Exhaust check valve	-
3	Cap	-	11	Pilot block	Resin
4	Plunger	Stainless steel	12	Manual shaft	Aluminum
5	Plunger spring	Stainless steel wire	13	Circuit board assembly	-
6	Coil assembly	-	14	Wiring cover	Polycarbonate
7	Spool packing	Nitrile rubber	15	Lead valve assembly	-
8	Cartridge push-in fitting	-			

Internal structure and parts list

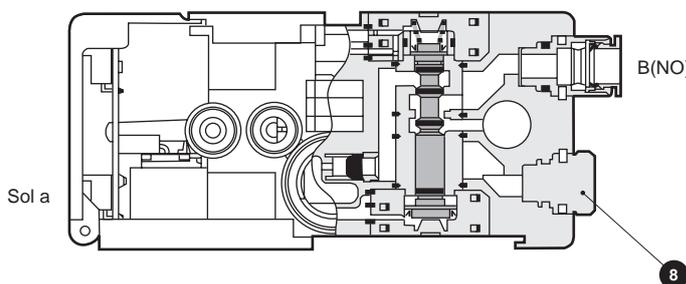
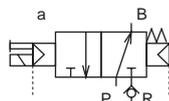
N3S010

● 2-position single normally closed



N3S0110

● 2-position single normally open



Main parts list

No.	Part name	Material	No.	Part name	Material
1	Body	Aluminum alloy	9	Piston S assembly	-
2	Valving element (spool)	Aluminum alloy	10	Piston D assembly	-
3	Valve spring	-	11	Exhaust check valve	-
4	Cap	-	12	Pilot block	Resin
5	Coil assembly	-	13	Circuit board assembly	-
6	Spool packing	Nitrile rubber	14	Wiring cover	Polycarbonate
7	Cartridge push-in fitting	-			
8	Plug cartridge	-			

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

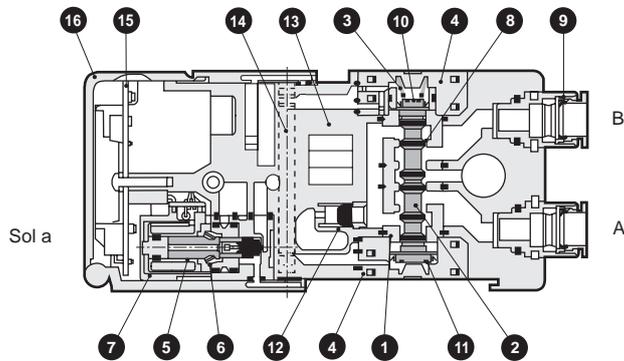
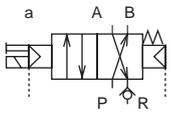
Reduced wiring block manifold (valve block); 4-port valve

Internal structure and parts list

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0**
- MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

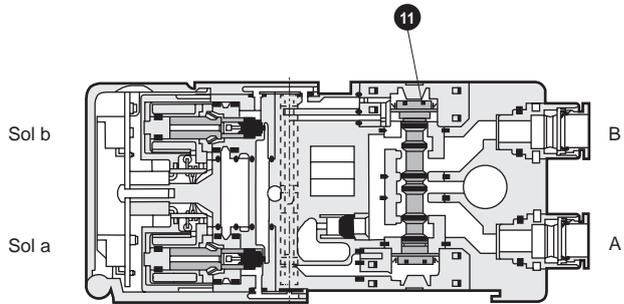
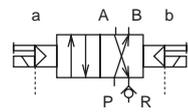
N4S010

● 2-position single



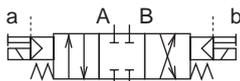
N4S020

● 2-position double



N4S030

● 3-position all ports closed



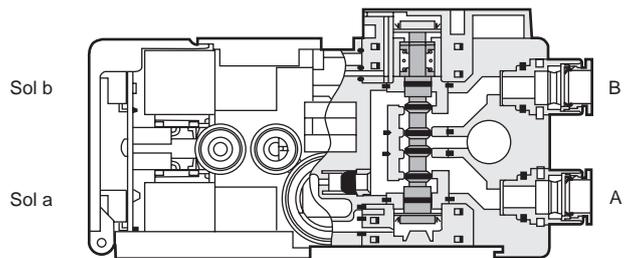
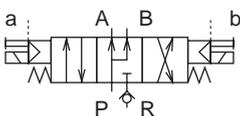
N4S040

● 3-position ABR connection



N4S050

● 3-position PAB connection



The figure shows the state when the all ports closed valve is OFF.

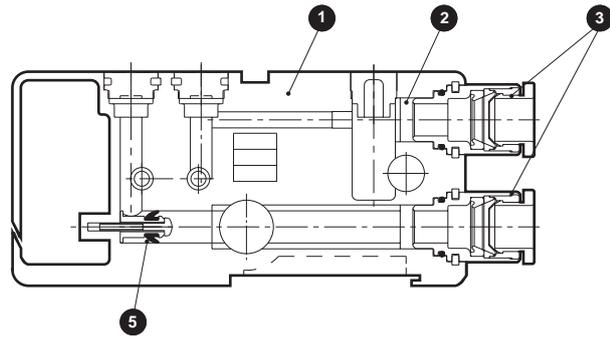
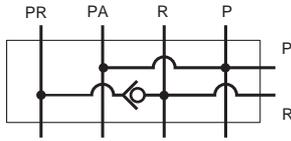
Main parts list

No.	Part name	Material	No.	Part name	Material
1	Body	Aluminum alloy	9	Cartridge push-in fitting	-
2	Valving element (spool)	Aluminum alloy	10	Piston S assembly	-
3	Valve spring	-	11	Piston D assembly	-
4	Cap	-	12	Exhaust check valve	-
5	Plunger	Stainless steel	13	Pilot block	Resin
6	Plunger spring	Stainless steel wire	14	Manual shaft	Aluminum
7	Coil assembly	-	15	Circuit board assembly	-
8	Spool packing	Nitrile rubber	16	Wiring cover	Polycarbonate

Internal structure and parts list

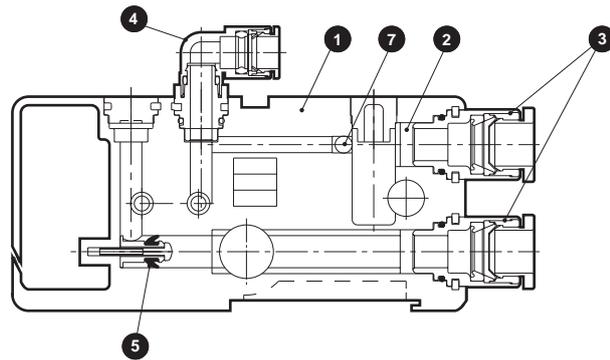
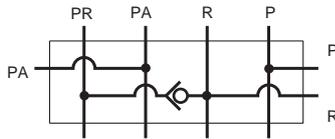
N4S0-Q

● Supply and exhaust block (for internal pilot)



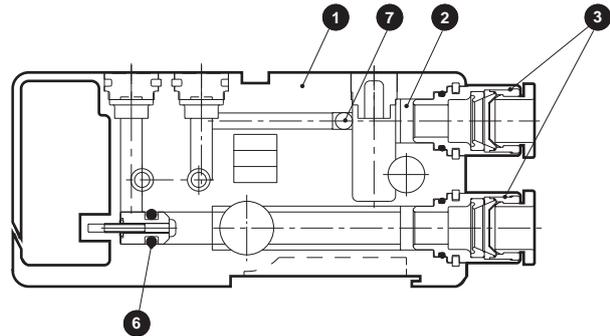
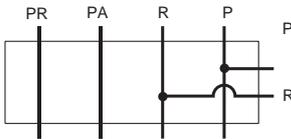
N4S0-QK

● Supply and exhaust block (for external pilot)



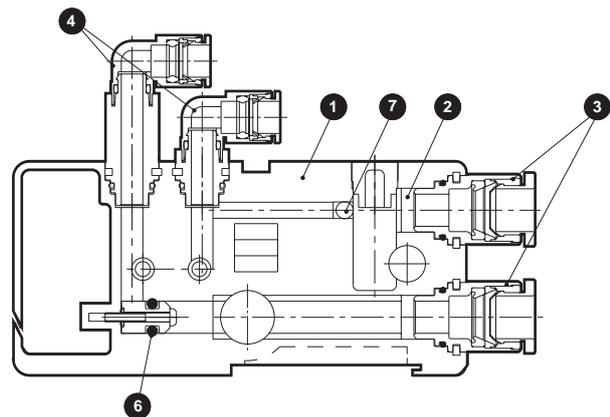
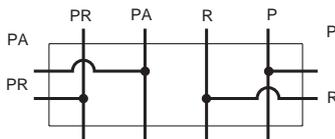
N4S0-QZ

● Supply and exhaust block (for multi-pressure circuit)



N4S0-QKZ

● Supply and exhaust block (for external pilot PA/PR separate)



Main parts list

No.	Part name	Material	No.	Part name	Material
1	Supply and exhaust block	Resin	5	Exhaust pressure check valve	-
2	Filter	-	6	R/PR separation plug	-
3	Cartridge push-in fitting (main piping section)	-	7	Steel ball	Stainless steel
4	Cartridge push-in fitting (external pilot piping section)	-			

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

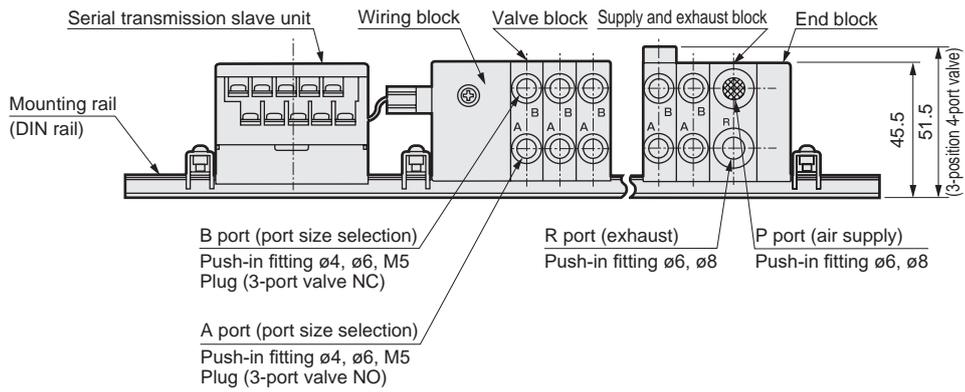
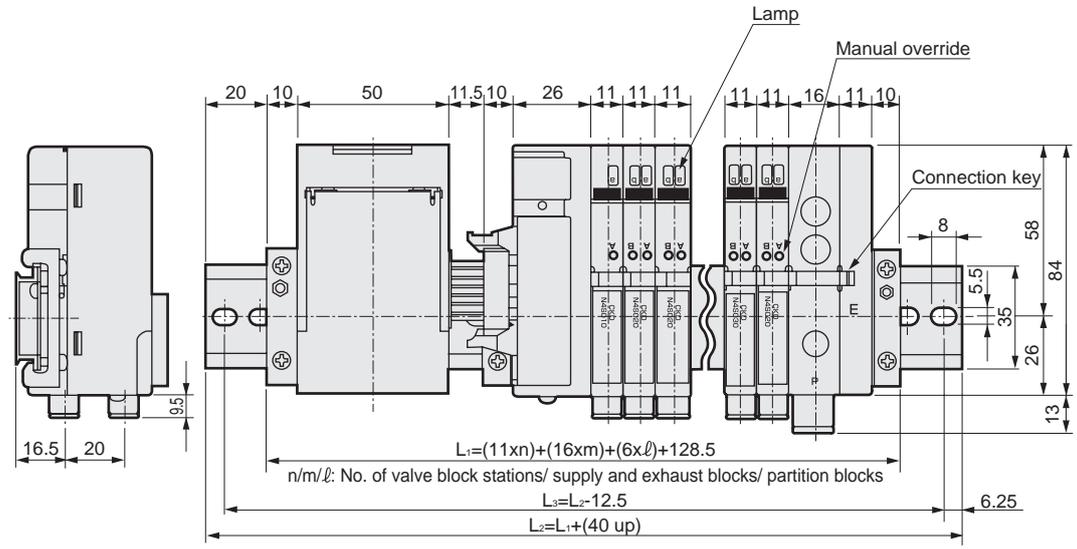
Reduced wiring block manifold; DIN rail mounting

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E MN4E
- W4GA/B2
- W4GB4
- MN3S0 MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G GMF
- PV5 GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV HSV
- 2QV 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

Dimensions

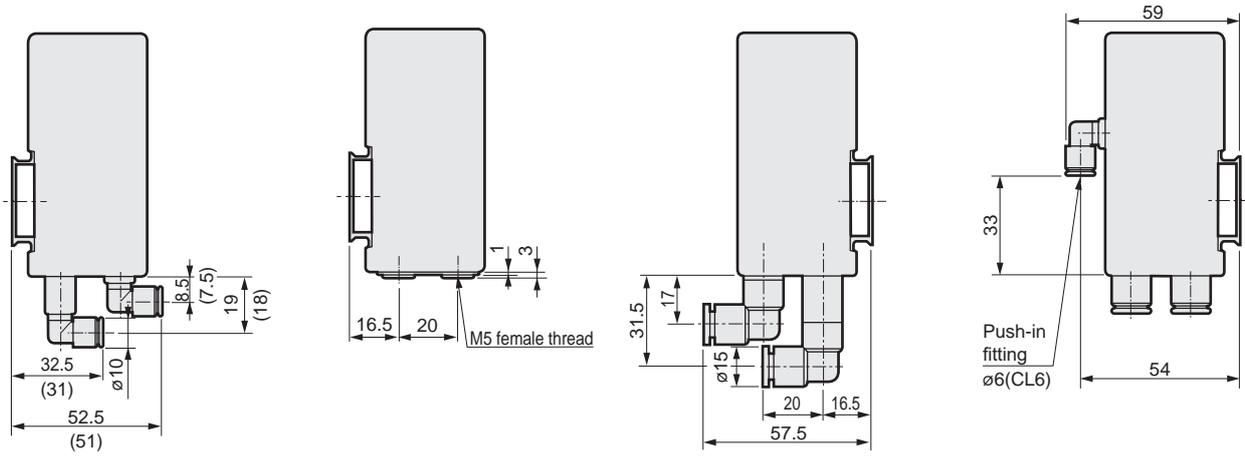
MN₄S0*0-*-*T6G1-*-*

● Serial transmission (T6G1)



Various piping block portion dimensions (common for all types)

- Valve block/ push-in fitting upward N₄S0*0-CL6 (CL4)
- Valve block/M5, fitting N₄S0*0-M5
- Supply and exhaust block/ upward piping N4S0-Q-8L
- Supply and exhaust block/ for external pilot N4S0-QK



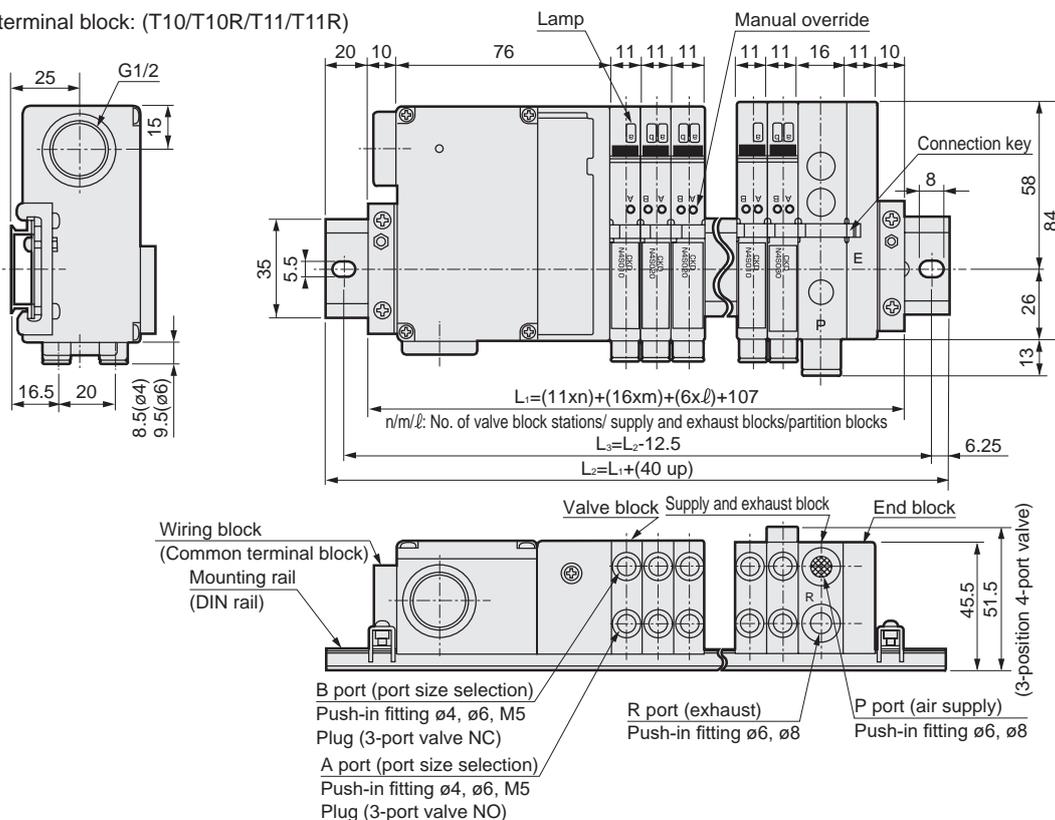
Dimensions



MN₄³S0*0-*-*T10-*-*
MN₄³S0*0-*-*T11-*-*

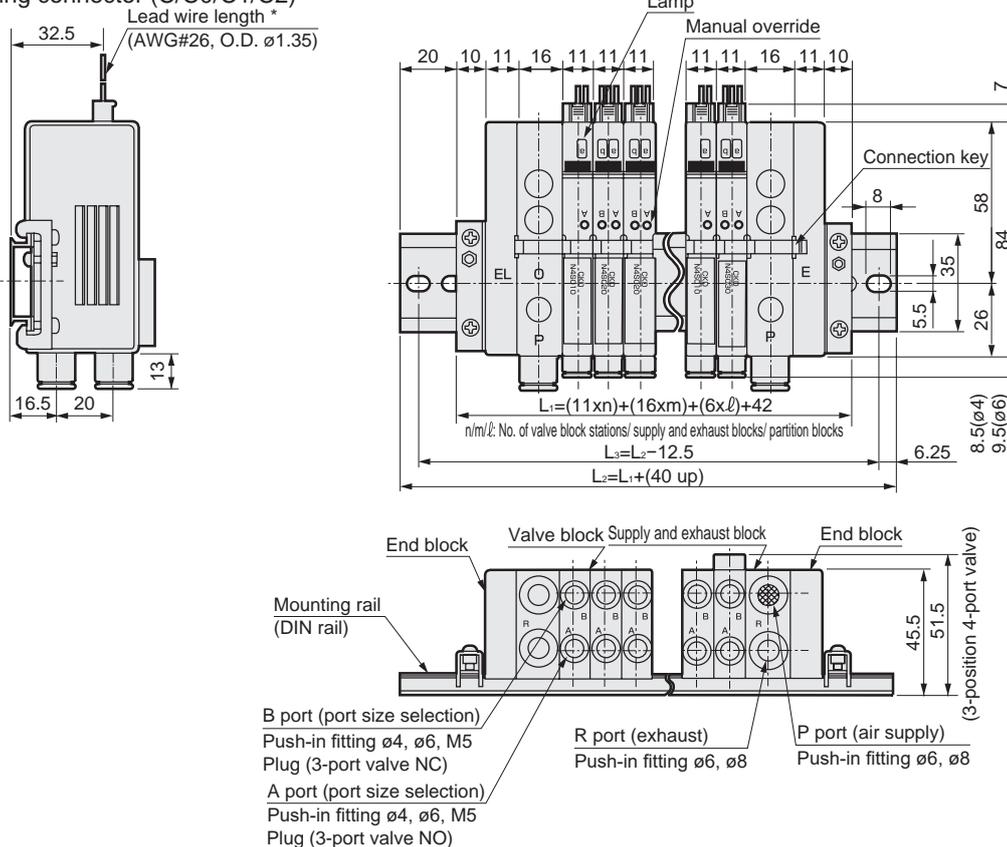
With the right side wiring specifications, the wiring block and end block will switch places.

- Common terminal block: (T10/T10R/T11/T11R)



MN₄³S0*0-*-* (C to C2) -*-*

- Individual wiring connector (C/C0/C1/C2)



* Refer to page 1204 for dimensions of various piping block units.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4C*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

Reduced wiring block manifold; DIN rail mounting

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

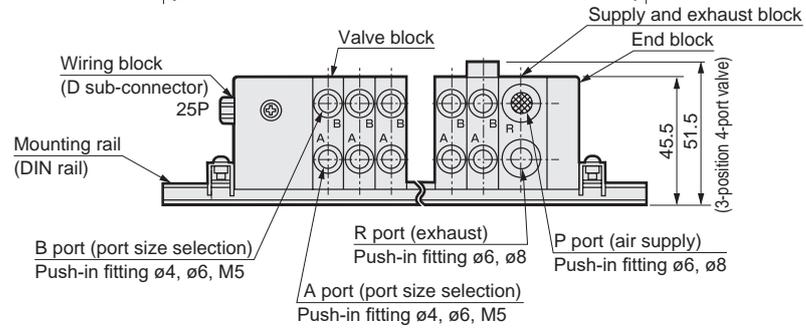
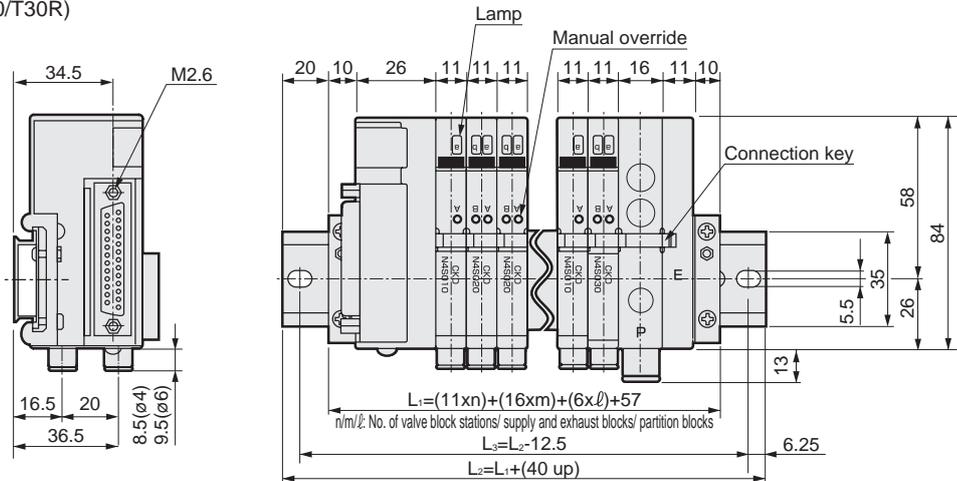
Dimensions

MN₄³S0*0-*-*T30-*-*

MN₄³S0*0-*-*T30R-*-*

● D sub-connector: (T30/T30R)

With the right side wiring specifications, the wiring block will be on the right side while the end block will be on the left side.

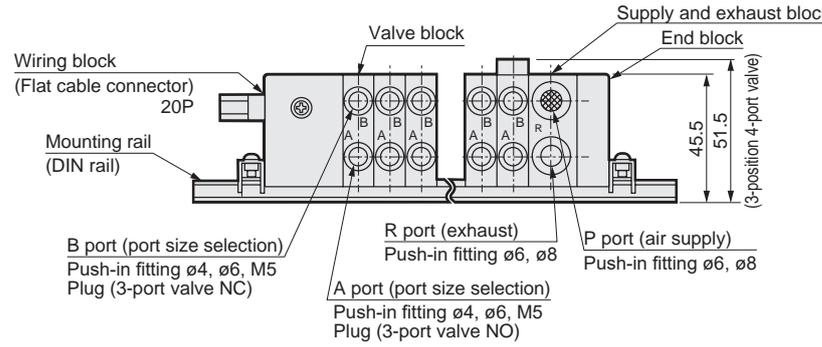
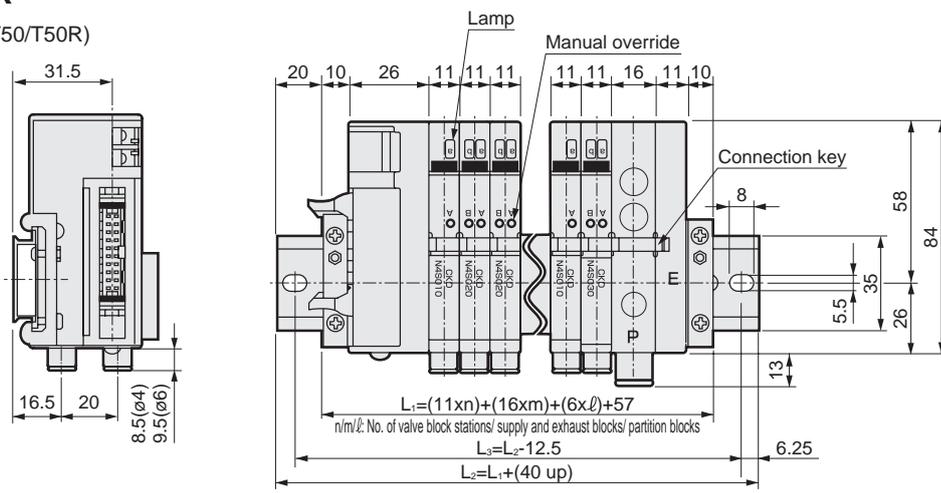


MN₄³S0*0-*-*T50-*-*

MN₄³S0*0-*-*T50R-*-*

● Flat cable connector: (T50/T50R)

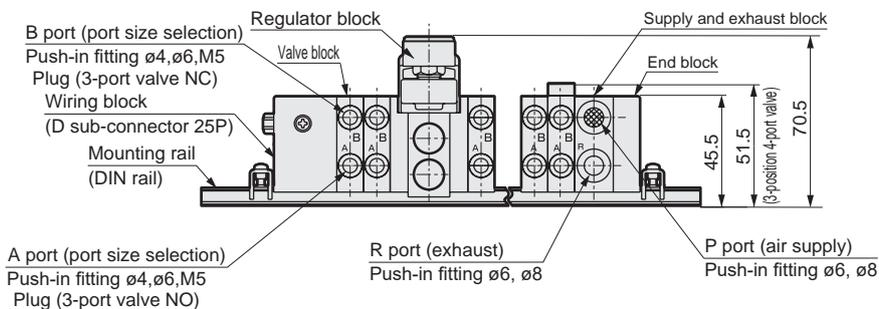
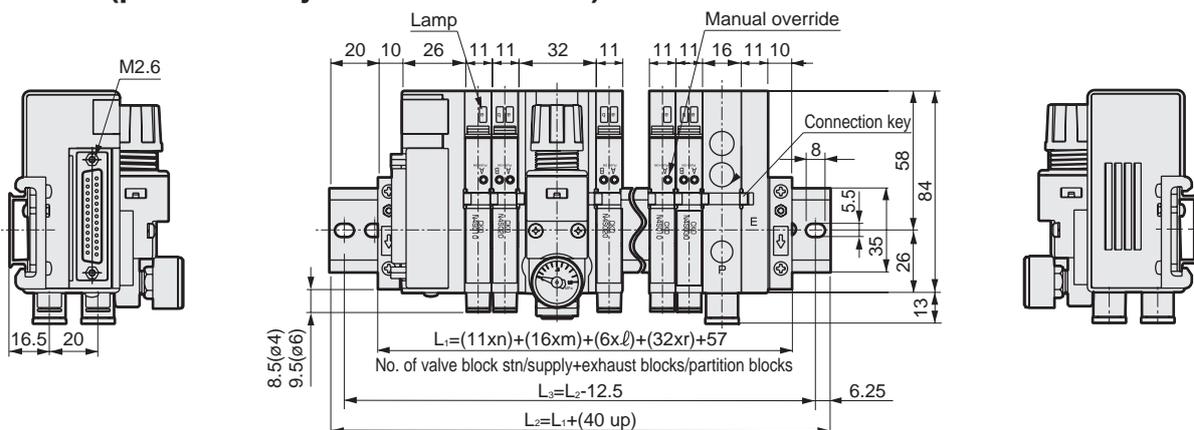
With the right side wiring specifications, the wiring block will be on the right side while the end block will be on the left side.



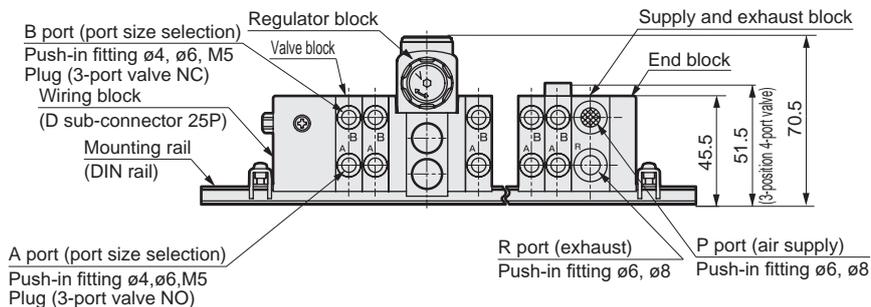
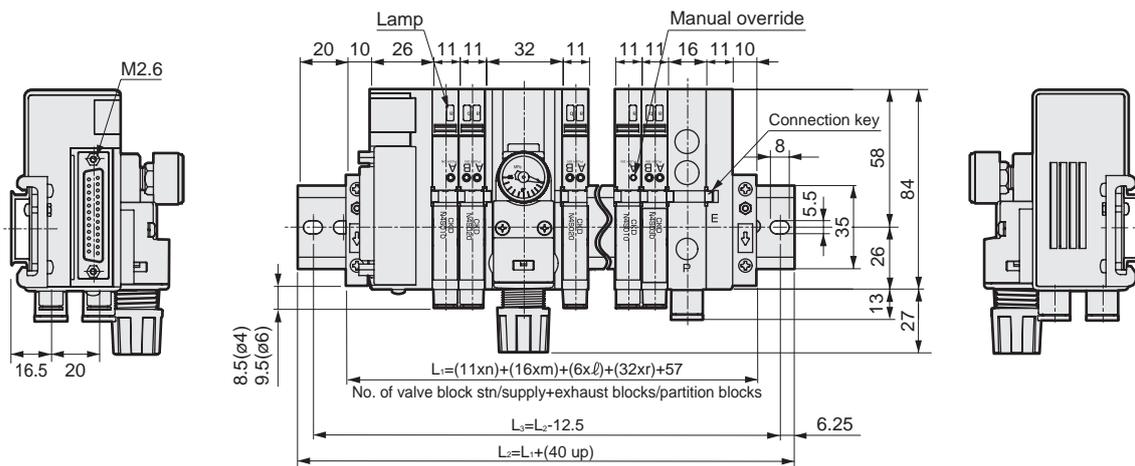
* Refer to page 1204 for dimensions of various piping block units.

Dimensions

● N4S0-RA (pressure adjustment knob rear)



● N4S0-RB (pressure adjustment knob front)



4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MT3S0/MT4S0 Series

Reduced wiring block manifold; direct mounting (limited to 8 stations)

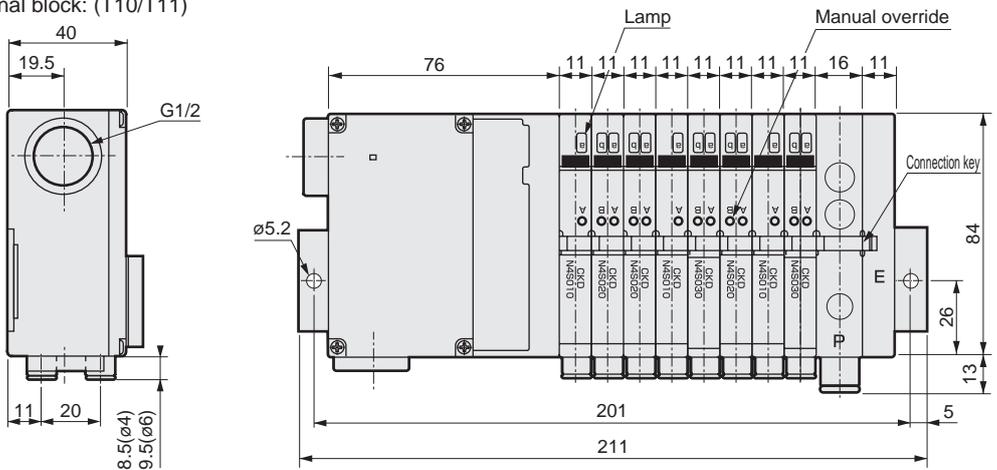
- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0**
- MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

Dimensions

MT₄³S0*0-*-*T10-*-*

MT₄³S0*0-*-*T11-*-*

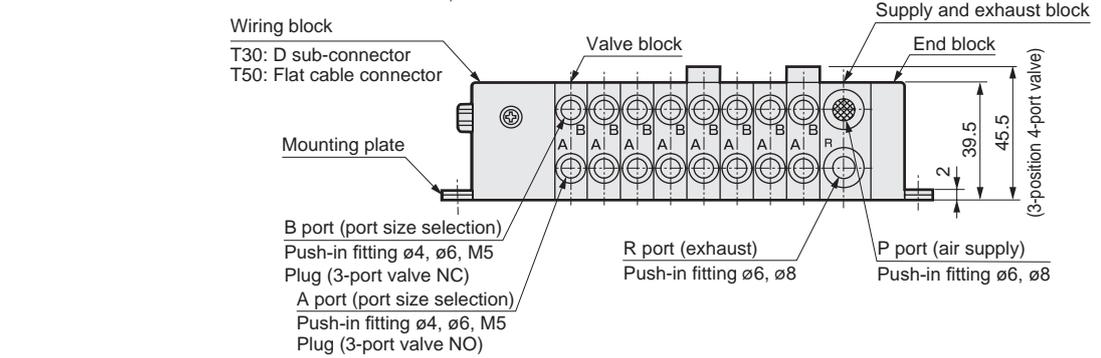
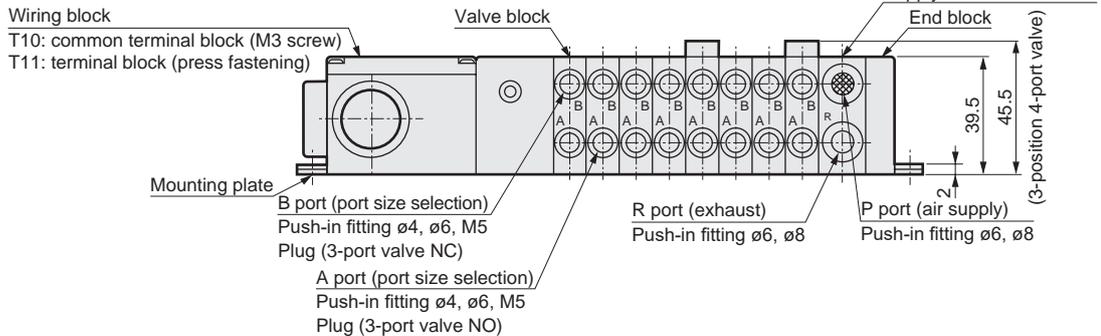
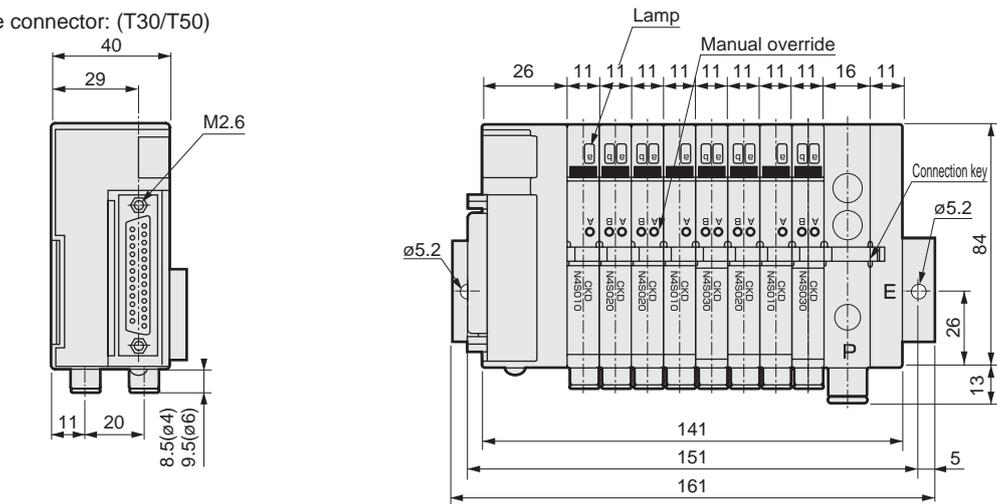
● Common terminal block: (T10/T11)



MT₄³S0*0-*-*T30-*-*

MT₄³S0*0-*-*T50-*-*

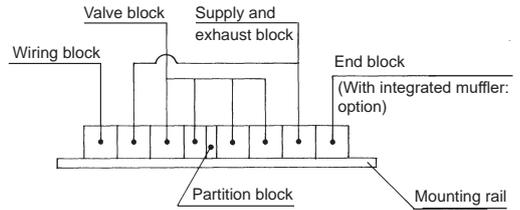
● D sub/flat cable connector: (T30/T50)



* Refer to page 1204 for dimensions of various piping block units.

Free assembly allows multiple stations to be expanded or reduced and serviced.

- The wiring block will be installed on the left side (right side) with the cylinder port facing forward while the end block will be installed on the right side (left side). In addition, these will be installed so as to sandwich the supply and exhaust block, valve block, and partition block.
- The supply and exhaust block can be installed at any position adjacent to the valve block. Generally, the block is installed on the right with the A/B (cylinder) port facing forward.
- The selected supply and exhaust block determines internal or external pilot operated. Valve block is the same for both types. By combining partition blocks and supply and exhaust blocks, it is possible to have a mixed configuration of different pressures, internal pilots, and external pilots.



4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

Block manifold configuration

Piping

Wiring

Option

Related products

Piping block

A End block (E)
Right side mount

B Supply and exhaust block (Q)

- Q-8 ● Q-8L
- QZ-8 ● QZ-8L

* For downward facing fittings, specify on the specification sheet.

B Supply and exhaust block (QK) (QZ) (QKZ)

- QK-8 ● QK-8L
- Q-8X ● QZ-8X
- Q-8LX ● QZ-8LX
- QKZ-8 ● QKZ-8L

C Push-in fitting Lateral

C Push-in fitting Upward

C Individual connectors

D Partition block

PR
PA
R
P

* For downward facing fittings, specify on the specification sheet.

Wiring block

E Serial transmission unit (T6G1)

F D sub-connector block (T30/T30R)

- Left side mount
- Right side mount

G Flat cable connector block (T50/T50R)

- Left side mount
- Right side mount

H Common terminal box (T10, T11)

- Left side mount
- Right side mount

Regulator block

I

J Mounting rail

J Blanking plug

J Push-in cartridge fitting

J Push-in fitting tube remover

J Silencer

J Push-in cartridge fitting for supply and exhaust block

CKD 1209

MN3S0/MN4S0 Series

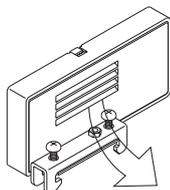
Reduced wiring block manifold; block

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
HMV
HSV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

Piping

A End block (E)

Right side mount

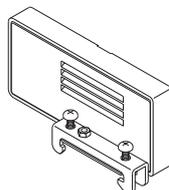


When using with atmosphere release, use the EX with a large exhaust flow rate.
Effective cross-sectional area 23mm²

N4S0 - E

Code	Description
E	End block on right side
EX	Exhaust muffler embedded end block for right side

Left side mount



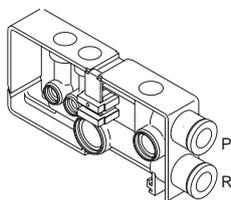
When using with atmosphere release, use the EXL with a large exhaust flow rate.
Effective cross-sectional area 23mm²

N4S0 - EL

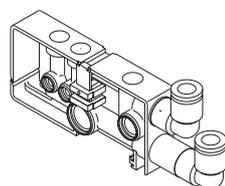
Code	Description
EL	End block on left side
EXL	Exhaust muffler embedded end block for left side

B Supply and exhaust block (Q) (QK) (QZ) (QKZ)

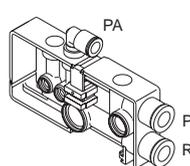
● Q-8
QZ-8



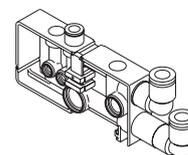
● Q-8L
QZ-8L



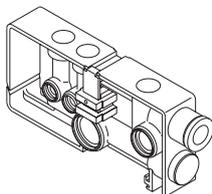
● QK-8



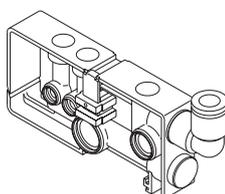
● QK-8L



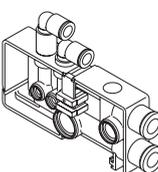
● Q-8X
QZ-8X



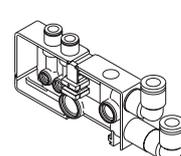
● Q-8LX
QZ-8LX



● QKZ-8



● QKZ-8L



Single supply and exhaust block

N4S0 - Q - 8

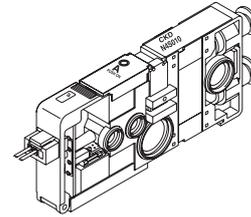
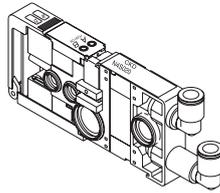
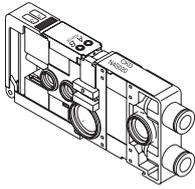
Code	P-port	PA port	R port	PR port	Pipe direction	Applications
Q-8 (X)	Collective ø8 fitting		Collective ø8 fitting (Plug)		Side	Internal pilot
Q-8L (X)					Up	
QK-8 (X)	ø8 fitting	ø6 fitting			Side	Dedicated for external pilot
QK-8L (X)					Up	
QZ-8 (X)	ø8 fitting	—	ø8 fitting (plug)	—	Side	For multi-pressure circuit
QZ-8L (X)					Up	
QKZ-8 (X)	ø8 fitting	ø6 fitting	ø8 fitting (plug)	ø6 fitting	Side	For separate external pilot circuit
QKZ-8L (X)					Up	

- With the atmosphere release, the exhaust will be released from the end block. In this case, when the R port must be equipped with a plug, place an X at the end of the model No.
- Port sizes of ø6, 1/4 (ø6.4) for the P/R port are available as a custom order. The model No. is N4S0-Q-6 for ø6 and N4S0-Q-6.4 for 1/4
- QZ is used in combination with Q and QK. This cannot be used as an independent part.
- In order to prevent foreign matter from entering, the P port is equipped with a filter. (Standard)

Piping

C MN₃S0 series manifold configuring block valve

- Push-in fitting lateral
- Push-in fitting upward
- Individual wiring connector



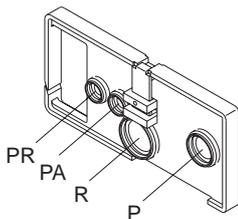
Discrete valve block **N** **4** **S0** **1** **0** - **C4** - **M1** **3**

A Valve	B Solenoid position	C Port size	D Manual override			E Wiring method		F Voltage	
3 3-port valve or two 3-port valves integrated	1 2-position normally closed single	C4 ø4 push-in fitting lateral	Blank	Non-locking manual override	Standard	Blank	For reduced wiring	Std.	3 24 VDC
	11 2-position normally open single								C6 ø6 push-in fitting lateral
4 4-port valve	66 A side: NC / B side: NC	CL4 ø4 push-in fitting upward	M2	Non-locking protrusion	Custom order	C	Individual wiring connector Lead wire length 300 mm	Option	
	67 A side: NC / B side: NO								
	76 A side: NO / B side: NC	M5 M5 female thread, rotation-stop							
	77 A side: NO / B side: NO								
4-port valve	1 2-position single					C0	Individual wiring connector Lead wire length 500 mm		
	2 2-position double					C1	Individual wiring connector Lead wire length 1,000 mm		
	3 3-position all ports closed					C2	Individual wiring connector Lead wire length 2,000 mm		
	4 3-position ABR connection								
	5 3-position PAB connection								

* For AB port filter equipped models (to prevent entry of foreign matter), place an F at the end of the port size code (option)

- When placing an order for only the cable line for individual connectors, indicate S for single or D for double.
Example: N4S0-INDIVIDUAL-CONNECTOR-CS1

D Partition block



Note when configuring the system that the PA and PR passages of the pilot pressure are not sealed with blocks other than the SA. S is utilized for differing pressure specifications.

N4S0 - SA

Code	Description	
SA	P, R, PA, PR blocked	Standard
S	P, R blocked, PA, PR through	
SP	P blocked, R, PA, PR through	Option
SE	R blocked, P, PA, PR through	

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0
- MN4S0
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

MN3S0/MN4S0 Series

Reduced wiring block manifold; block

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0**
- MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

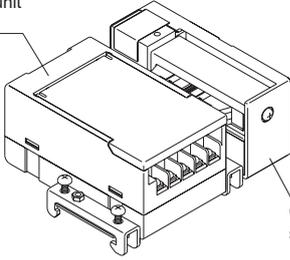
Wiring

(Wiring block)

* As this is manufactured as a single unit with the wiring cables, it is not possible to place an order for the wiring block only.

E Serial transmission unit (T6G1)

Slave unit
OPP3



N4S0-T56
Connector block for serial transmission

N4S0 - T6G1

The serial slave unit and manifold are connected with a flat cable connector. The working power is 24 VDC.

Item	Description		
Serial transmission	T6G1	16 points	CC-Link compatible

Discrete serial transmission slave unit model No.

N4S0 - OPP3 - 1G

A Wiring method

Code	Description
A Wiring method	
1G	T6G1 Serial transmission (CC-Link compatible 16 points)

Wiring

(Wiring block)

* As this is manufactured as a single unit with the wiring cables, it is not possible to place an order for the wiring block only.

F D-sub-connector block (T30/T30R)

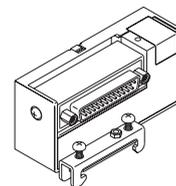
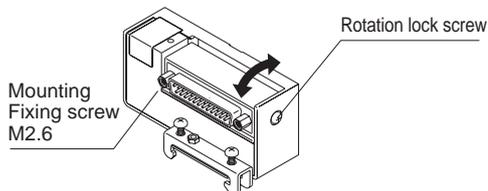
*MIL standards compliant(MIL-C-24308)

Left side mount

Right side mount

N4S0 - T30

N4S0 - T30R



G Flat cable connector block (T50/T50R)

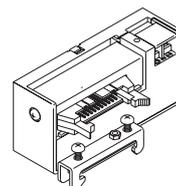
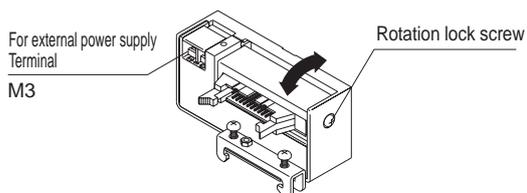
*MIL standards compliant(MIL-C-83503)

Left side mount

Right side mount

N4S0 - T50

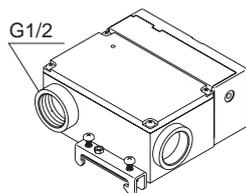
N4S0 - T50R



H Common terminal box (T10, T11)

Left side mount

Right side mount



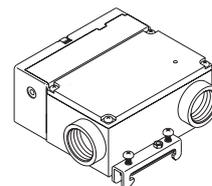
Solenoid 14 points

T10/T10R



Solenoid 24 points

T11/T11R



N4S0 - T10

N4S0 - T10R

Code	Description
T10	M3 screw fastening terminal block for left side
T11	Press fastening terminal block for left side

Code	Description
T10R	M3 screw fastening terminal block for right side
T11R	Press fastening terminal block for right side

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

Reduced wiring block manifold; block

① Regulator equipped block

N4S0 - RA - LR - C6 - FL259661

N4S0 - RB - LR - C6 - FL259662

Model No.

A Pressure adjustment knob direction

B Air supply/pressure adjustment direction

C Fitting size (*1)

⚠ Note on model No. selection

- *1: For the fittings, the straight is standard. The elbow is available as custom-order.
- *2: When mounting a regulator block within the manifold, one or more supply and exhaust blocks for pilot air is necessary.
- *3: Contact CKD when using the regulator block independently for external pressure control other than the manifold.

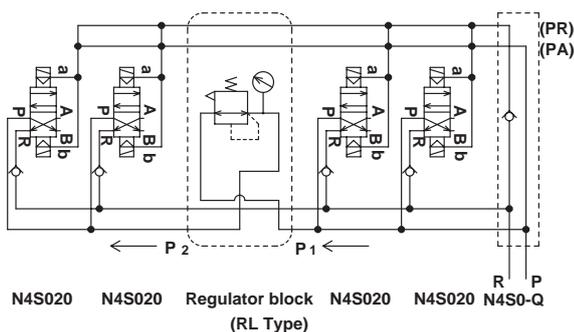
Discrete regulator model No.

RB500 - 00 M

Note: Consult with CKD when using options.

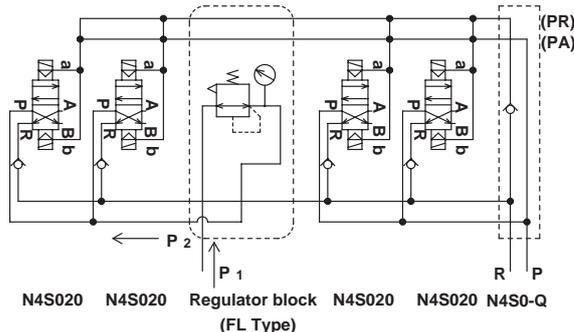
Applications (Consult with CKD for other applications.)

Application 1: Depressurization of internal main pressure



* Reducing the pressure (P = P₁) supplied from the supply and exhaust block

Application 2: Depressurization of external main pressure

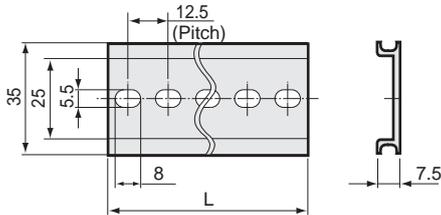


* Reducing the pressure (P ≠ P₁) supplied directly from the regulator block

Code	Description	Code	Description
A Pressure adjustment knob direction			
RA		RB	
B Air supply/pressure adjustment direction			
LR		RL	
FR		FL	
Code	Description		
C Fitting size			
Blank	Plug (when air supply direction is LR, RL)		
C6	ø6 push-in fitting (straight)		
C8	ø8 push-in fitting (straight)		
CL6	ø6 push-in fitting (elbow)		
CL8	ø8 push-in fitting (elbow)		
			Available on a made to order basis

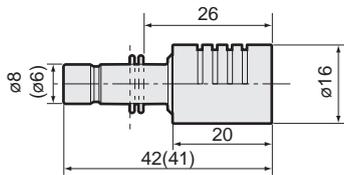
J Related products

● Mounting rail



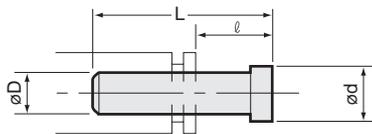
● Silencer (attachment)

SLW-H8
SLW-H6



* Value within brackets for H6
Effective cross-sectional area 8.5 (7) mm²

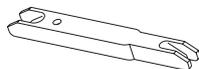
● Blanking plug (attachment)



Model No.	D	L	l	d
GZP4-B	ø4	27	16	6
GZP6-B	ø6	29	17	8
GZP8-B	ø8	33	17.5	10

● Push-in fitting tube remover

N4S0-EOT4-6



● Push-in cartridge fitting

N4S0 - JOINT - C4

Dedicated for valve block and supply/exhaust block PA port.
Cannot be used for ports P and R of supply and exhaust block.

Code	Dimensions	
C4	Push-in cartridge fitting for ø4, ø6 tube	
C6		
CL4	Short radial push-in cartridge fitting for ø4, ø6 tube	
CL6		
CLL4	Long radial push-in cartridge fitting for ø4, ø6 tube	
CLL6		
CM5	The rotation-stop plate dedicated for the M5 cartridge is required.	
CMP	Rotation-stop plate dedicated for M5 cartridge	
CPG	Plug cartridge	
CMB	Cartridge plug for M5 cartridge	
M5-4-KIT	M5 cartridge (x2)	Rotation-stop plate for M5 cartridge (x1)
M5-3-KIT	M5 cartridge (x1)	Cartridge plug for M5 cartridge (x1) rotation-stop plate for M5 cartridge (x1)

● Push-in cartridge fitting for supply and exhaust block

N4S0 - Q - JOINT - 8

For pilot pressure air supply (for PA), use the products for valve block shown above.

Code	Dimensions	
8	Push-in cartridge fitting for ø8 tube	
6	Push-in cartridge fitting for ø6 tube	
8L	Short radial push-in cartridge fitting for ø8 tube	
6L	Short radial push-in cartridge fitting for ø6 tube	
8LL	Long radial push-in cartridge fitting for ø8 tube	
6LL	Long radial push-in cartridge fitting for ø6 tube	
MP	Port plug for P and R	

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

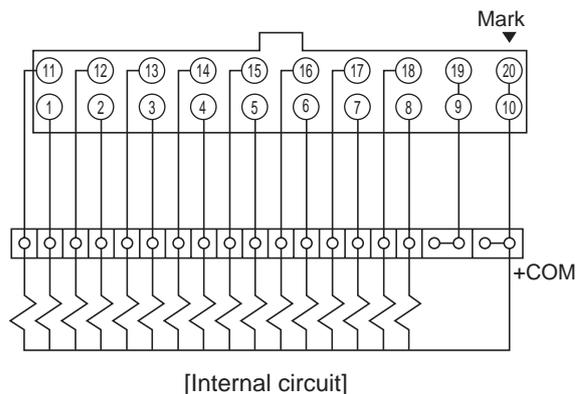
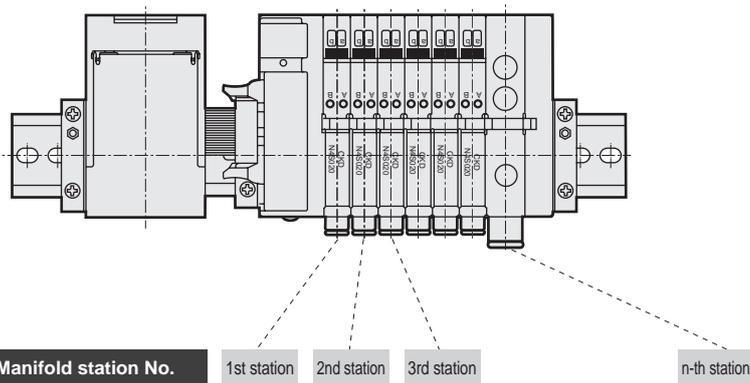
Technical data ① Notes on wiring: Serial transmission

Serial transmission: Wiring method

T6G1 serial transmission

- The slave unit's output No. differs with the manufacturer. The manifold internal connector pin No. and the manifold solenoid correspond as shown below.
- Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.
- Internal connectors are wired in order, so there may be some blank numbers depending on the number of manifold stations. These blank outputs cannot be used to drive other than the solenoid manifold in use.
- The working power is 24 VDC.
- A slave unit for each communication system is used. Contact CKD for usable PLC models, host unit model numbers and communication system specifications.
- Output number differs by PLC manufacturer, but the function assignment is the same. Arrange using connectors and the triangular mark (▼) in the table below for reference. The ▼ mark is the reference for both plug and socket.

If a valve side signal array other than the standard array is necessary, specify in the manifold specifications sheet by placing an ab marking on the wiring specifications. In addition, when changing the expansion station valve specifications, it will be necessary to install installation cables. Specify by placing a circle on the wiring specification terminal No.



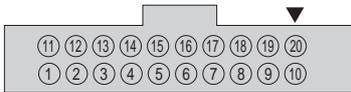
Connector pin array (example) of wiring method T6G1

- For single solenoid valve
(Supports up to manifold max. station number of 16 stations)



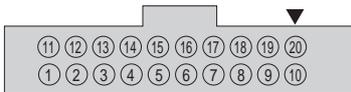
Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	9a	10a	11a	12a	13a	14a	15a	16a		+COM
Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a		+COM

- For double solenoid valve
(Supports up to manifold max. station number of 8 stations)



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

- For mixed use (single/double mixture)
(Supports max. No. of solenoid valves up to 16 points)



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

*1: The numerals of valve numbers 1a, 1b, 2a, 2b ... indicate the order of stations first station, second station... and the letters "a" and "b" indicate the "a side" solenoid and "b side" solenoid, respectively.

Correspondence of output No. and connector pin No.

Output No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Connector pin	1	2	3	4	5	6	7	8	11	12	13	14	15	16	17	18

PLC compatibility table for serial transmission

Model No.	Maker (recommended organization)	Comm system name	Host unit model No.
T6G1	CC-Link Partner Association (CLPA)	CC-Link	Connected to compatible CC-Link master
	Mitsubishi Electric Corporation		QJ61BT11N A1SJ61QBT11 A1SJ61BT11

Note: For details on master units and models not listed above, contact the PLC manufacturer.

Common terminal block: Wiring method

T10/T11 common terminal block

With the common terminal box, the common wiring is internal processed beforehand. In addition, the terminal numbers (listed on the terminal block covers) correspond to the manifold solenoids as shown below. Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.

Cautions for common terminal block

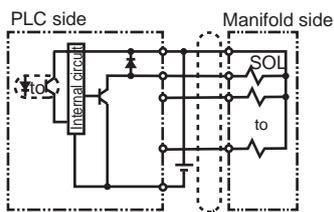
When using the T10 outside of the board, be sure to prepare a cover as necessary.

With the common terminal block, as common wires are processed internally beforehand, in the following cases, the number of steps for the wiring may increase or there may be cases when it is not possible to perform the wiring.

- Unify the manifold power supply.
- When using the independent contact PLC output unit, wire the common wires at the contact section.

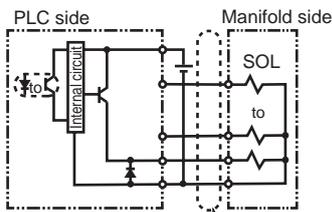
Wiring method

- In case of DC output unit (NPN output)

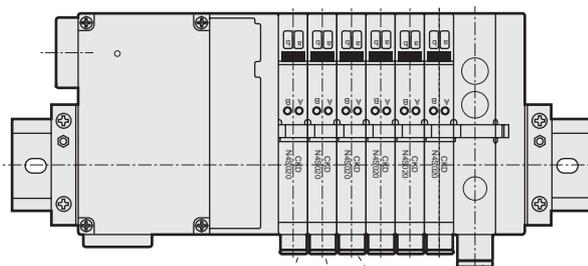


Multi-conductor cable, etc.

- In case of DC output unit (PNP output)



Multi-conductor cable, etc.

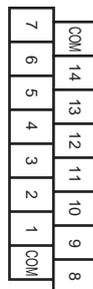


Manifold station No. 1st station 2nd station 3rd station ... n-th station

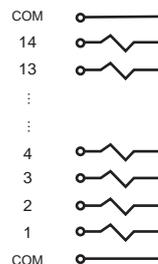
T10 Manifold internal wiring

- Max. No. of solenoid valves 14 points

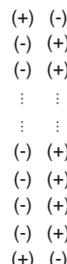
Terminal layout drawing



Terminal block No.



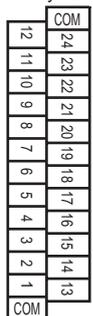
Polarity



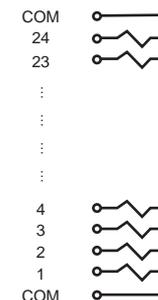
T11 Manifold internal wiring

- Max. No. of solenoid valves 24 points

Terminal layout drawing



Terminal block No.



Polarity



4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

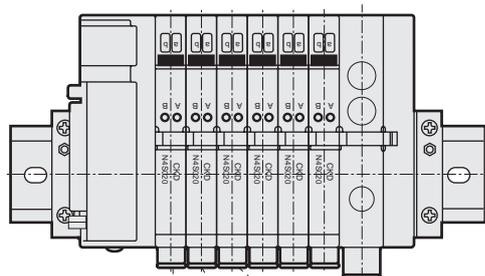
MN3S0/MN4S0 Series

Technical data ① Notes on wiring: D sub-connector

D sub-connector: Wiring method T30

T30 Connectors

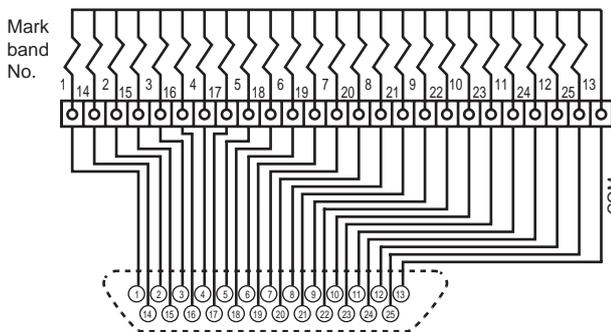
The connector used for T30/T31 wiring, called a D sub-connector, is used widely for FA and OA devices. The 25P in particular is also an RS-232-C Standards designated connector, used for personal computer communication. The manifolds station numbers are set in order from the left with the piping port facing forward regardless of the wiring block position.



Manifold station No. 1st station 2nd station 3rd station ... n-th station

Connector T30 Precautions

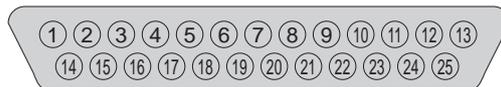
- (1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
- (2) The working power is 12/24 VDC dedicated.
- (3) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



[Internal circuit]

Wiring method T30 connector pin layout (example)

*1: The numerals of valve numbers 1a, 1b, 2a, 2b ... indicate the order of stations first station, second station... and the letters "a" and "b" indicate the "a side" solenoid and "b side" solenoid, respectively.



- For single solenoid valve (supports max. manifold No. up to 24 points)

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

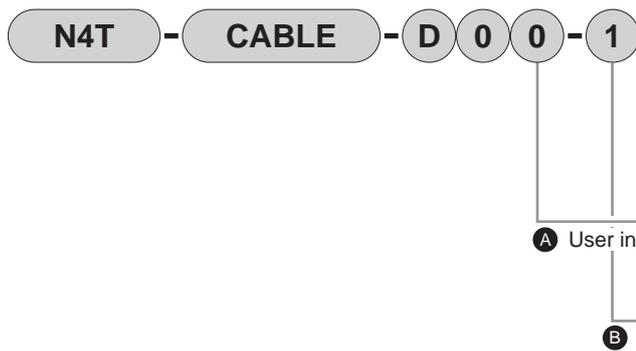
- For double solenoid valve (supports max. manifold No. up to 12 points)

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

- For mixed use (single/double mixture) (supports max. solenoid No. up to 24 points)

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

How to order cable with D sub-connector

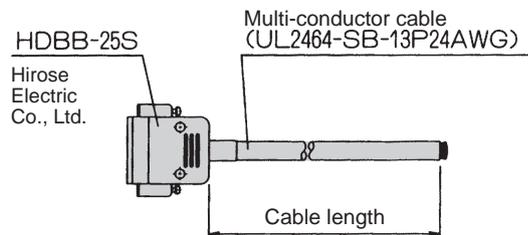


* Each pneumatic valve model can be used for D sub-connector T30/T31.

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

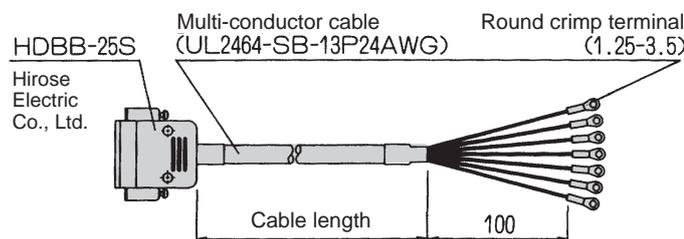
D sub-connector terminal No. and conductor

● N4T-CABLE-D00- ②



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

● N4T-CABLE-D01- ②



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

* Up to 24 points can be used. Cut the wires for surplus points before use.

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E
- MN4E
- W4GA/B2
- W4GB4
- MN3S0**
- MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5
- GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP
- NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV
- HSV
- 2QV
- 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

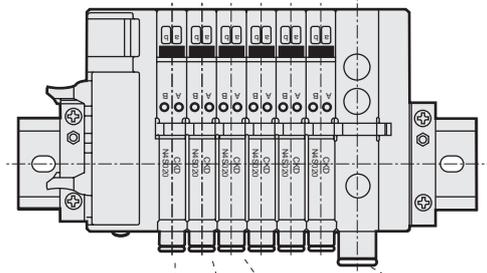
MN3S0/MN4S0 Series

Technical data ① Notes on wiring: Flat cable connector

Flat cable connector: Wiring method

T50 Connectors

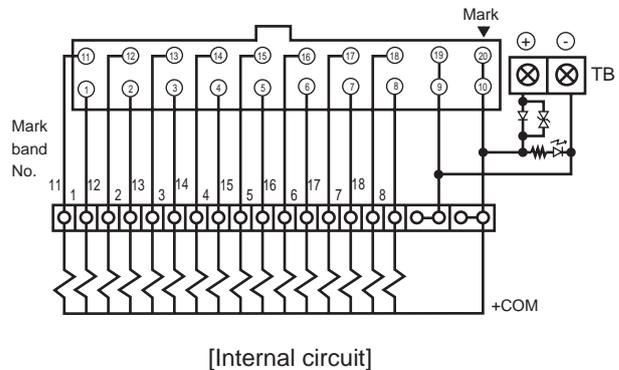
The connector used for T50 wiring method complies with MIL Standards (MIL-C-83503). Wiring work is simplified with the pressure welded flat cable. Pin numbers are assigned differently based on the PLC manufacturer, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The ▼ mark is the reference for both plug and socket. The manifolds station numbers are set in order from the left with the piping port facing forward regardless of the wiring block position.



Manifold station No. 1st station 2nd station 3rd station ... n-th station

Connector T50 Precautions

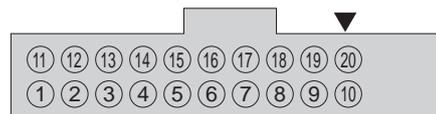
- (1) Signal arrays of the PLC output unit must match signal arrays on the valve side. Direct connections with the PLC are limited. Use the dedicated cable for each PLC manufacturer.
- (2) The working power is 12/24 VDC dedicated.
- (3) When connecting the T50 to a general output unit, use the + terminal (20, 10) of the 20P connector as the + side common, and use the NPN transistor output open collector for the drive circuit.
- (4) Never connect this manifold to the input unit, as major failures could occur in this device and in peripherals. Be sure to connect the manifold to the output unit.
- (5) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.



[Internal circuit]

Wiring method T50 connector pin layout (example)

*: The numerals of valve numbers 1a, 1b, 2a, 2b ... indicate the order of stations first station, second station... and the letters "a" and "b" indicate the "a side" solenoid and "b side" solenoid, respectively.



- For single solenoid valve (supports max. manifold No. up to 16 points)

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

- For double solenoid valve (supports max. manifold No. up to 8 points)

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

- For mixed use (single/double mixture) (supports max. solenoid No. up to 16 points)

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

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E
MN4E
W4GA/B2
W4GB4
MN3S0
MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G
GMF
PV5
GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP
NVP
4G*0EJ
4F*0EX
4F*0E
H MV
H SV
2QV
3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

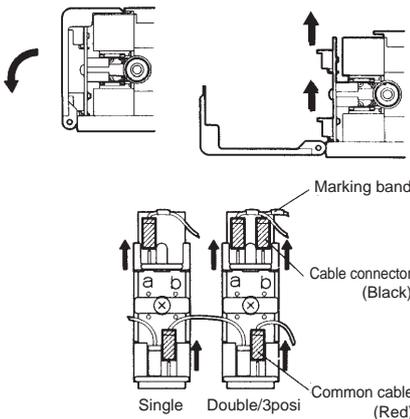
How to disassemble/assemble block manifold

⚠ CAUTION: Be sure to turn power OFF and release pressure before increasing or decreasing the manifolds.

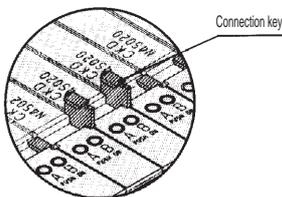
The procedures for changing the valve blocks, replacing the valve blocks due to service life, etc., adding the supply and exhaust blocks and changing/increasing the specifications using various pressure supply devices are explained below. Refer to the individual Instruction Manuals for details. Turn OFF power and stop the air pressure source before starting the disassembly work. When the manifold has been disassembled and assembled, if the connection key is not correctly inserted between the blocks or if the wiring and end block screws are insufficiently tightened, air could leak. Confirm that the connection keys are correctly inserted between the blocks and that the blocks are securely fixed onto the DIN rail before supplying air. CKD recommends using identification marking when disconnecting the A and B port piping. Each valve block is connected with a common cable and from the wiring block, a signal input cable is connected to a, b of the valve block in a set order. Be sure to review the wiring connections upon block replacement.

Replacing the valve blocks

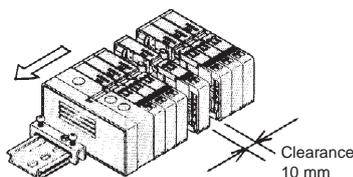
- (1) Loosen the DIN rail fixing screw on the end block.
- (2) Open the electric cover of the valve block you wish to replace and the blocks on both sides and remove the cable connector a, b from the wiring block and the common cable connector.



- (3) Using a tool such as a flathead screwdriver, pull up the key connecting the valve block to be replaced and the blocks on both sides.

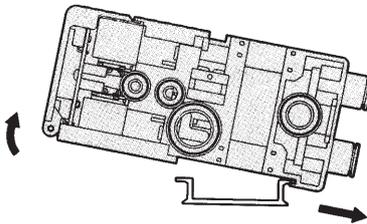


- (4) Slide the block to the end block side, and provide a space of 10 mm on each side of the block to be replaced.

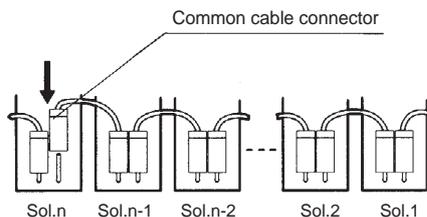


Sliding the valve block with force may cause the wires to break. Please be careful.

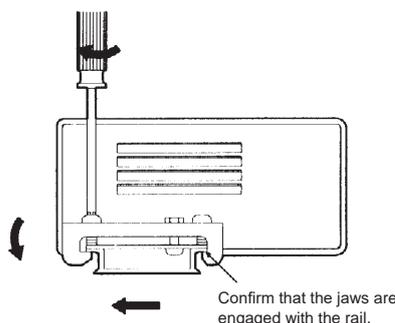
- (5) Lift up the block's wiring cover side, and pull toward the piping port side. The block will come off the DIN rail. Open the cover and place the wires through it.



- (6) Replace with a new block. Place the wiring cables through the block, engage the block bottom surface claws with the DIN rail from the port side, and place the block on the rail.
- (7) Slide all of the blocks to the wiring block side so that there are no spaces between the blocks.
- (8) Push the connecting key up to the groove on the top surface of the block.
- (9) In order to prevent mistakes, attach the cable connectors a, b and the common cable connector back to their original state while checking the marking band numbers.



- (10) Confirm that the end block's retainer claw is caught on both sides of the DIN rail, and then tighten the fixing screw with a screwdriver. Appropriate tightening torque is 1.4 Nm.



Increasing the valve blocks

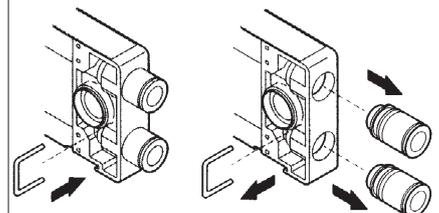
- (1) If there are plans to add more blocks, specify the need for expansion cables in the manifold specifications sheet. Otherwise, specify a spare valve block.
- (2) When a spare is not available, it will be necessary to perform the wiring from the wiring block. Contact CKD separately.

Mounting the supply and exhaust block and partition block

- (1) The blocks are added with the same procedures as replacing the valve blocks.
- (2) Allow slack of the wiring block cables and common block cables inside the cover slit part of the wiring side of supply and exhaust blocks and partition blocks, and pass them through the cover.
- (3) Take care, as the cable length may become insufficient due to expansion of blocks.

Replacing the cartridge fitting

- (1) The blocks are separated with the same procedures as replacing the valve blocks.
- (2) Using a tool such as a flathead screwdriver, remove the stopper inserted from the left side surface of the port of the block to be replaced and replace the cartridge fitting.
- (3) Confirm that there is no dirt, etc., on the fitting's O-ring, and then set it in the original position.



Checking after disassembly and assembly

Implement a check of the piping and a check of the wiring to confirm that they are correct. In particular, be careful of incorrect connections of the A, B-ports for piping and a, b for wiring.

MN3S0/MN4S0 Series

Technical data ③ Notes on wiring: Disassembling/assembling

How to disassemble/assemble regulator and regulator block

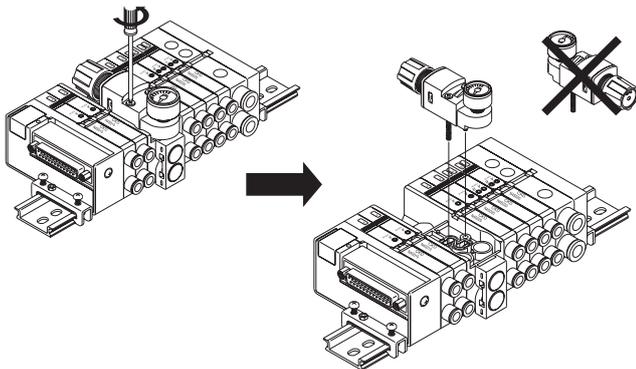
⚠ Caution: Be sure to turn power OFF and release the pressure before performing the following work.

The procedures for adding, disassembling and assembling regulator bodies and regulator blocks, due to specifications change or service life, are explained below. Contact CKD for details.

After assembly, confirm that the connection key between blocks and the fitting stopper pin for the regulator block are securely assembled before use. In addition, for details on handling of the valve block, refer to the separate instruction manual for MN4S0.

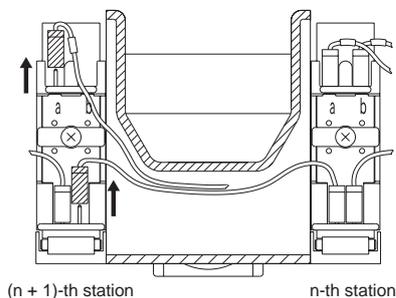
Regulator replacement

- (1) Loosen the regulator mounting screw, and lift the regulator body upward and off.
 - (2) After replacing the regulator, confirm that the gasket has not deviated from the block grooves, and assemble in the original state. The appropriate tightening torque for the regulator body mounting screw is 0.5 to 0.8 N·m.
- (Note) In cases when the regulator has been reassembled with the knob facing the opposite side of the original position, it may not be possible to reduce pressure. If a regulator has been removed, assemble the components back in their original state.

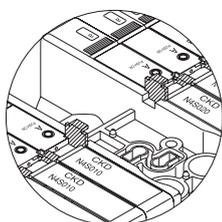


Regulator block replacement

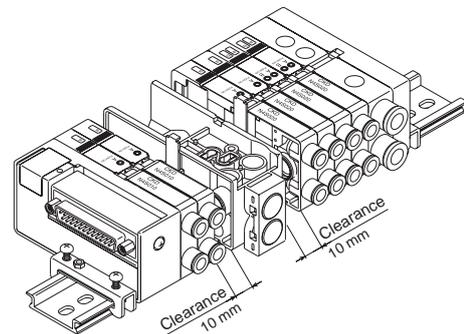
- (1) Remove the regulator body. (Refer to the above for how to remove)
- (2) Open the wiring block cover of the regulator block you wish to replace and the blocks on both sides, and remove the cable connector a (and b) of the (n+1)-th valve block station and the common cable connector.



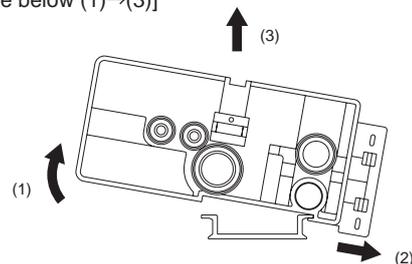
- (3) Using a tool such as a flathead screwdriver, pull up the key connecting the regulator block and the blocks on both sides.



- (4) Loosen the DIN rail fixing screw on the end block.
- (5) Slide the block to the end block side, and provide a space of 10 mm on each side of the regulator block to be replaced.



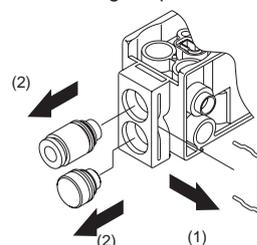
- (6) Lift up the side opposite the block piping port, and pull toward the piping port side to remove the block from the DIN rail. [Figure below (1)→(3)]



- (7) Replace the block, and mount the blocks onto the DIN rail in the opposite order of (6).
- (8) Slide all of the blocks to the wiring block side and assemble so that there are no spaces between the blocks.
- (9) Push the connecting key up to the groove on the top surface of the block.
- (10) In order to prevent mistakes, attach the cable connectors a (and b) and the common cable connector back to their original state while checking the marking band numbers.
- (11) Confirm that the end block's retainer claw is caught on both sides of the DIN rail, and then tighten the fixing screw with a screwdriver. The tightening torque of band fixing screw is 1.4 to 1.5 N·m.

Regulator block cartridge fitting replacement

- (1) The blocks are separated with the same procedures as "Regulator block replacement".
- (2) Using a tool such as a flathead screwdriver, remove the stopper pin inserted from the right side of the block where the fitting needs replacing, and replace the fitting. {Figure below (1)→(2)}
- (3) Confirm that there is no dirt, etc., on the fitting's O-ring, and then assemble it in the original position.



MN3S0/MN4S0 Series

How to fill out block manifold specifications sheet

● Manifold model No. (example) Refer to pages 1209 to 1215 for model No. per component.

MN³₄S0 **8** **0** - **CX** - **MX** **T50** - **7** - **3**

DIN rail mount Solenoid position Port size Manual override Wiring method Valve block station No. Voltage

Part name	Model No.	Installation position																									Qty.	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25		
Wiring block	N4S0-T50	○																										1
Valve block	N4S0-1 0-C4-M1			○	○	○	○																					4
	N4S0-2 0-C6-									○	○																	2
	N4S0-4 0-C6-											○																1
	N3S0-0-																											
Supply and exhaust block	N4S0-Q-8																											1
	N4S0-Q-Z-8		○																									1
Partition block	N4S0-(*1)								S																			1
End block	N4S0-E																											1
Mounting rail	L ₂ = 	Accessory	Blanking plug					GZP4-B					Silencer					SLW-H8										
			Blanking plug					GZP6-B					Cable with D sub-connector					N4T-CABLE-DO□□□										
			Blanking plug					GZP8-B					Push-in fitting tube remover (standard attachment) <input type="checkbox"/> Check if not needed															

(*1) When using a partition block, list the model No. SA, S, SP, or SE for the installation position No.

Preparing manifold specifications sheet

- Complete from the left end, with the piping port facing forward.
(Write the block model numbers and positions you determined referring to the block configurations (pages 1209 to 1215).)
- Write the total number of blocks specified in the quantity field at the table far right.
- Indicate the quantity of required accessories.
- Indicate the mounting rail length. (Fill in only when a length other than the standard length is required.)
- As there are manifold specifications sheets for each of the various series, fill in the form for the corresponding specifications.

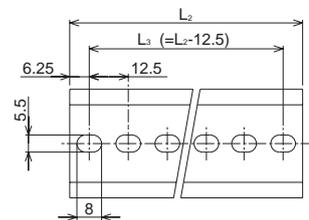
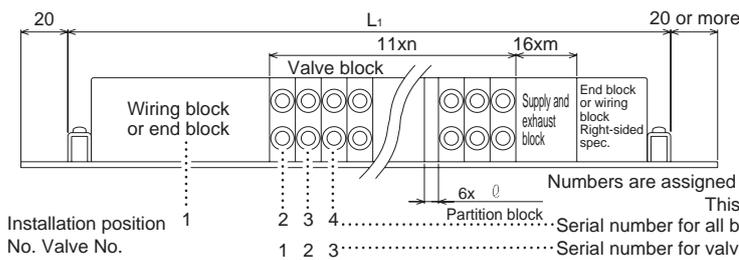
- MN³₄S0 page 1225
- MT³₄S0 page 1226
- MN³₄S0 (regulator block equipped) page 1227

Obtaining the DIN rail length

Manifold length $L_1 = (11xn) + (16xm) + (6x\varnothing) + 57$ (Wiring method T30, T50)
 $= (11xn) + (16xm) + (6x\varnothing) + 107$ (Wiring method T10, T11)
 $= (11xn) + (16xm) + (6x\varnothing) + 128.5$ (Wiring method T6G1)
 $= (11xn) + (16xm) + (6x\varnothing) + 42$ (Wiring method individual wiring)

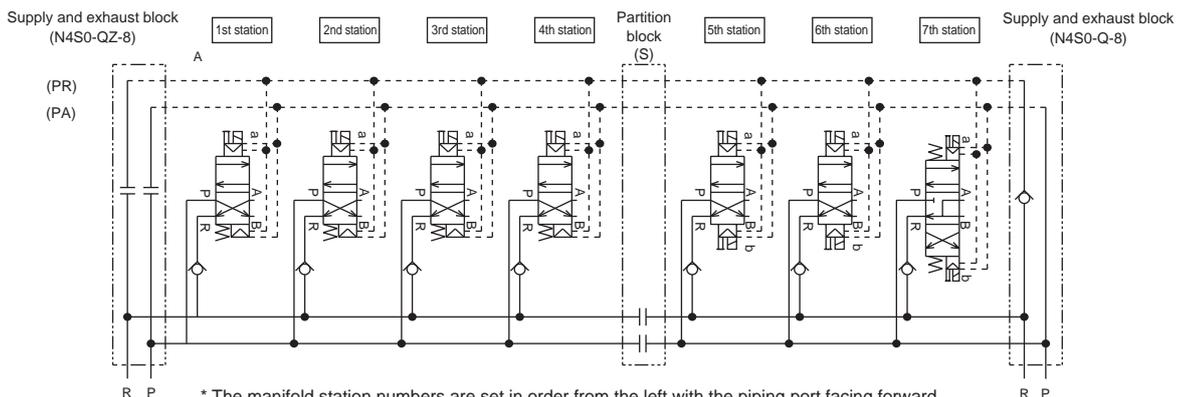
n: number of valve blocks \varnothing : number of partition blocks m: number of supply and exhaust blocks

DIN rail length $L_2 = L_1 \times 12.5$
 $L_2' = \frac{L_1 + 40}{12.5}$ → Round decimals up to integer, Rail mounting pitch $L_3 = L_2 - 12.5$



Add the increase when expanding blocks. With the standard configuration, it is possible to expand 2 stations of valve blocks.

Reference circuit diagram With the above manifold model No. (listed example) (simplified circuit diagram)



* The manifold station numbers are set in order from the left with the piping port facing forward. (Wiring blocks, supply and exhaust blocks, partition block, and end block are not included in the manifold station No.)

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

How to fill out wiring specifications sheet

* This is not required with standard wiring.

● Precaution regarding wiring specifications

- (1) Wiring blocks and valve blocks are processed inside beforehand with common wiring.
- (2) According to the wiring methods of T10, T11, T30, and T50, the connector pins or terminal numbers are configured in correspondence with solenoid numbers. List specifications upon reviewing the precautions for each wiring method. * Consult with CKD for product specifications other than the standard wiring specifications.
- (3) When it is expected that there will be a change of expansion valve specifications, an expansion cable will be necessary in advance. (With standard wiring, the unit will come with 2 expansion cables.)

Specify by placing a circle on each pin connector or terminal No. in the field for wiring specifications. (Refer to example)
 In addition, a supply and exhaust block must be installed on the end block side as storage space for the expansion cables. In cases when it is necessary to install 5 or more cable lines, it is also necessary to prepare another set of supply and exhaust blocks. (As a supply and exhaust block for storage of the expansion cable, there is the "N4SO-QX-X" in which the P.R port is a plug sealing.) When the single has been switched to the double: As in the following example, mark a circle on b and the terminal No. together with the a, b table of the valve No. In this case, expansion of supply and exhaust blocks will not be necessary even when there are 5 or more units.

* Example (filled out in accordance with the manifold specifications sheet on the previous page.)

	Connector pin or terminal block No.					Valve No.															
	T10	T11	T30	T50	T	1	2	3	4	5	6	7	8	9	10	11	12	13	14		
	1	1	1	1	1	a															
	2	2	14	2	2		a														
	3	3	2	3	3			a													
	4	4	15	4	4				a												
	5	5	3	5	5					a											
	6	6	16	(6)	6					(b)										Spare cable	
	7	7	4	7	7					a											
	8	8	17	(8)	8					(b)											Spare cable
	9	9	5	9 - power supply	9																
	10	10	18	10 + power supply	10																
	11	11	6	11	11							a									
	12	12	19	12	12							b									
	13	13	7	(13)	13								○								
	14	14	20	(14)	14								○								Spare cable
	COM	15	8	(15)	15								○								
	COM	16	21	(16)	16								○								
		17	9	17	17								○								
		18	22	18	18																
		19	10	19 - power supply	19																
		20	23	20 + power supply	20																
		21	11	21	21																

For the spare cable after final wiring, list upon shifting by 1 row.

With standard wiring, the unit will come with 2 expansion cables.

- 4GA/B
- M4GA/B
- MN4GA/B
- 4GA/B (master)
- 4GB With sensor
- 4GD/E
- M4GD/E
- MN4GD/E
- 4GA4/B4
- MN3E MN4E
- W4GA/B2
- W4GB4
- MN3S0 MN4S0**
- 4SA/B0
- 4KA/B
- 4KA/B (master)
- 4F
- 4F (master)
- PV5G
- GMF
- PV5 GMF
- PV5S-0
- 3Q
- MV3QR
- 3MA/B0
- 3PA/B
- P/M/B
- NP/NAP NVP
- 4G*0EJ
- 4F*0EX
- 4F*0E
- HMV HSV
- 2QV 3QV
- SKH
- Silencer
- TotAirSys (Total Air)
- TotAirSys (Gamma)
- Ending

MT 3 SO Direct mounting

Block manifold specifications sheet

Issued _____ / _____ / _____

Company _____

Contact _____

Order No. _____

● Contact ● Quantity set(s) ● Delivery date /

Slip No. _____	Order No. _____
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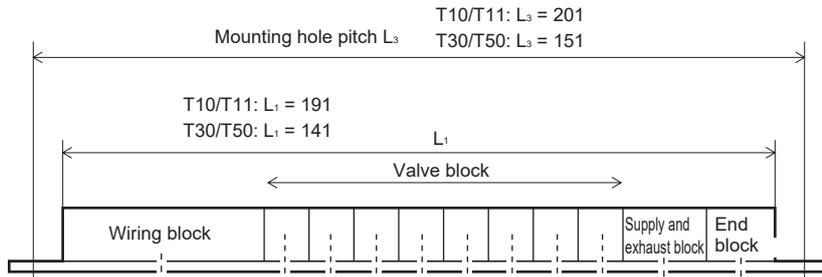
● Manifold model No.

MT 3 SO **0** - - - **8** -

Direct mounting Solenoid position Port size Manual override Wiring method Valve block station No. Voltage

When filling in this field, select the model No. from "Block configurations" (pages 1209 to 1215).

Product name (page)	Model No.	Installation position											Quantity Volume	
		1	2	3	4	5	6	7	8	9	10	11		
Wiring block (page 1213)	N4S0- 													
Valve block (page 1211)	N4S0: 0- - 													
	N4S0: 0- - 													
	N4S0: 0- - 													
	N4S0: 0- - 													
	N4S0: 0- - 													
	N3S0: 0- - 													
	N3S0: 0- - 													
Supply and exhaust block (page 1210)	N4S0-Q - 													
End block (page 1210)	N4S0-E 													
Accessories (page 1215)	Blanking plug GZP4-B													
	Blanking plug GZP6-B													
	Blanking plug GZP8-B													
	Silencer SLW-H8													
	Silencer SLW-H6													
	Cable with D sub-connector N4T-CABLE-DO <input type="checkbox"/> <input type="checkbox"/>													
	Push-in fitting tube remover (Standard attachment)													<input type="checkbox"/> Not required (Check)



Installation position No. 1 2 3 4 5 6 7 8 9 10 11 Serial number for all blocks.
 Valve No. 1 2 3 4 5 6 7 8 ----- Serial number for valve blocks only.

● **Wiring specification sheet (Not required for standard wiring)**

Connector pin or terminal block No.					Valve No.							
T10	T11	T30	T50		1	2	3	4	5	6	7	8
1	1	1	1	1								
2	2	14	2	2								
3	3	2	3	3								
4	4	15	4	4								
5	5	3	5	5								
6	6	16	6	6								
7	7	4	7	7								
8	8	17	8	8								
9	9	5	9-power supply	9								
10	10	18	10 + power supply	10								
11	11	6	11	11								
12	12	19	12	12								
13	13	7	13	13								
14	14	20	14	14								
COM	15	8	15	15								
COM	16	21	16	16								
	17	9	17	17								
	18	22	18	18								
	19	10	19-power supply	19								
	20	23	20 + power supply	20								
	21	11	21	21								
	22	24	22	22								
	23	12	23	23								
	24	25	24	24								
	COM	13COM	25	25								
	COM		26	26								

When T50 wiring is used, connector pin numbers 9, 10, 19, and 20 cannot be specified, because they are used for the external input power supply.



Pneumatic components

Safety Precautions

Be sure to read this section before use.

Refer to Intro Page 59 for general precautions for using valves.

Product-specific cautions: PLC compatible reduced wiring 3, 4-port valve block manifold MN3S0/MN4S0 series

Design/selection

CAUTION

■ Working air quality

- Use compressed air that has been treated as clean air. (by means of a dryer, oil mist separator, or air filter of 5 μ, etc.) This is to prevent failure due to drainage, oil oxides, tar, foreign matter, or rust contained in the compressed air.
- Always implement flushing prior to installation of piping.
- For lubrication, no-lubrication is standard. When lubrication is required, use turbine oil Class 1 ISO VG32 or equivalent. In addition, use of different types of oil, excessive lubrication, or forgetting to lubricate after the unit has been lubricated once may cause failure of the solenoid valve.
- Service life may be shortened due to splashed lubricant when using ultra dry air.
- The response time in the field for product specifications is a value with no lubrication and a pressure of 0.5 MPa when the unit is energized. Lubricating the unit more than necessary may cause delayed operation.

■ Avoid using the unit in the following environments.

- Ambient temperature outside the range of 5 to 50°C
 - Places where the unit will be exposed to dripping water and/or coolant
 - Places where there is a lot of dust
 - Places exposed to salt winds or a corrosive gas atmosphere
- When use in such locations is unavoidable, protect the unit with a cover, etc.
- While use in a location exposed to direct sunlight may cause discoloration due to UV rays, this will not have an impact on the performance of the product.

Mounting, installation and adjustment

1. Installation

CAUTION

- Do not use this product in an environment that will be exposed to vibration of 50 m/s² or more and/or shock of 300 m/s² or more. This may cause malfunction.
- Do not constrict the air supply piping. Delayed operation may occur due to a temporary drop of the supplied pressure with simultaneous operation of multiple station numbers.
- Do not use the cylinder port with atmosphere release. Use the external pilot, as a drop in supplied pressure may cause defective operation. (The lower limit pressure of the internal pilot is 0.2 MPa.)
- Do not constrict the exhaust flow path. Doing so may cause delayed response of the cylinders. Adjust the speed between the cylinder and the valve.
- Do not seal off the pilot exhaust flow path. Always secure an exhaust flow path, as sealing off the pilot exhaust flow path may cause defective operation.
- When suspending a cylinder midway with the 3-position all ports closed (N4S030), make sure that there is no leakage from the piping connections or inside the cylinder. (Use a cylinder with brake when stopping accuracy is necessary or when leaving the unit for a long period of time.)

■ Avoid installation in a location with poor ventilation or heat radiation.

Although the surface temperature of the manifold will rise when being continuously energized, this is normal. However, make sure that the ambient temperature does not exceed 50°C.

- When using the two 3-port valves integrated valve block, avoid use in cases when the main pressure will be less than or equal to the min. working pressure due to different pressure control within the manifold or use involving atmosphere release.

2. Applicable piping tube

CAUTION

- Observe the following precautions when using nylon tubes or urethane tubes for piping material.
 - Use flame-resistant tubes or metal steel pipes in an environment where spattering may occur.
 - Use hydraulic hose when piping is for both hydraulic and pneumatic use. When using the standard push-in fitting on the spiral tube, fix the base of the tube with a hose band. Rotation may occur, causing a reduction in holding force. Use a fastening fitting in an atmosphere of high temperatures. The push-in fitting cannot be used.

⚠ CAUTION

■ Piping connections

● Compatible tube

When using a push-in fitting equipped solenoid valve, use CKD specified tubes.

Soft nylon (F-1500 Series)

Urethane (U-9500 Series)

When using a commercially available tube, check external dimension accuracy, thickness, and hardness. Use a urethane tube with a hardness of 93° and over (rubber hardness meter).

If a tube that does not satisfy the diameter accuracy or hardness is used, chucking force may decrease or the tube may come off or be difficult to insert.

Tube dimensions

O.D. mm	I.D. mm	
	Nylon	Urethane
ø4	ø2.5	ø2
ø6	ø4	ø4
ø8	ø5.7	ø5
ø10	ø7.2	ø6.5
ø12	ø8.9	ø8

Tolerance of outer diameter

Soft/hard nylon	±0.1 mm
Urethane ø4, ø6	+0.1 mm
	-0.15 mm
ø8, ø10, ø12,	+0.1 mm
	-0.2 mm

● Bending radius of tube

The tube's bending radius must be larger than the min. bending radius. (Otherwise, dislocation or leakage could result)

Bore size	Min. bending radius mm	
	Nylon	Urethane
ø4	10	10
ø6	20	20
ø8	30	30
ø10	40	40
ø12	55	50

● Cutting the tube

Use a tube knife (AZ1200), and cut at a right angle to the axis. Air could leak if a tube cut diagonally is inserted.

● Tube connection state

From the end of the fitting, provide a straight section that is as long as the O.D. of the tube being used, and avoid sudden bends in the piping at the fitting insertion port. Check that the tube's tensile strength in the lateral direction does not exceed 40 N.

● Compatible blanking plug

When using a push-in fitting equipped solenoid valve, use CKD specified blanking plugs.

Blanking plug GZP□-B Series

3. Power supply circuit/connection

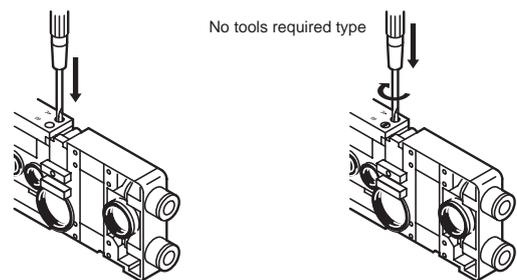
⚠ CAUTION

- Make sure that the leakage current of the programmable controller is 1 mA or less on the circuit. High leakage current may cause the valve to malfunction.
- Make sure that the instantaneous energizing operation of the double solenoid is 0.1 seconds or more at min.
- When replacing or expanding blocks, perform tasks upon following the instruction manual. In particular, be careful of the order in which cable connectors are connected.
- For other wiring connections, refer to the precautions for each wiring method.
- When it is expected that valve blocks will be expanded, specify the need for spare cables in the manifold specifications sheet. (Up to 4 cables for 1 supply and exhaust block)

4. Manual operation

⚠ CAUTION

- Manual operation of the MN4S0 uses an indirect driving system operated with pilot pressure. This will not operate unless pilot pressure is supplied.
 - (1) Non-locking
 - Press the button on the top surface of the valve with a thin tool, etc., that is ø2 mm or less until the button hits the bottom. Pressing A will create a state similar to when the coil for a is in operation, while pressing B will create a state similar to when the coil for b is in operation.
 - While the main valve will also be restored with the single and 3-position when released, with the double, the main valve will retain its position even when the button is restored.
 - (2) Locking
 - In addition to the function of the non-locking, it is possible to retain the pressed state by turning (with a precision (flathead) screwdriver of 2 mm) the button in the direction of the arrow by 90 degrees while pressing the button. Be sure to release the lock prior to starting normal operation.



● Non-locking

● Locking

In order to ensure safety, be sure to place a cover over custom order products of non-locking and locking that do not require tools.

4GA/B
M4GA/B
MN4GA/B
4GA/B (master)
4GB With sensor
4GD/E
M4GD/E
MN4GD/E
4GA4/B4
MN3E MN4E
W4GA/B2
W4GB4
MN3S0 MN4S0
4SA/B0
4KA/B
4KA/B (master)
4F
4F (master)
PV5G GMF
PV5 GMF
PV5S-0
3Q
MV3QR
3MA/B0
3PA/B
P/M/B
NP/NAP NVP
4G*0EJ
4F*0EX
4F*0E
HMV HSV
2QV 3QV
SKH
Silencer
TotAirSys (Total Air)
TotAirSys (Gamma)
Ending

MN3S0/MN4S0 Series

Product-specific cautions

Use/maintenance

1. Surge suppressor

⚠ CAUTION

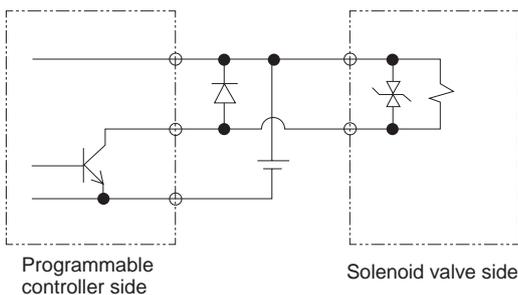
■ The surge suppressor attached to the solenoid valve is intended to protect the output contacts for the solenoid valve drive. There is no significant protection for the other peripheral devices, and devices could be damaged or could malfunction due to a surge. As well, surges generated by other devices may be absorbed and cause damage such as burning. Note the following points.

- (1) The surge suppressor functions to limit solenoid valve surge voltage, which can reach several hundred volts, to a low voltage level that the output contact can withstand. Depending on the output circuit used, this may be insufficient and could result in damage or malfunction. Check whether the surge suppressor can be used within the surge voltage limit of the solenoid valve in use, the output device's withstand pressure and circuit structure, and by the degree of return delay time. When necessary, provide other surge countermeasures. The inverse voltage surge generated when OFF can be suppressed to the following levels.

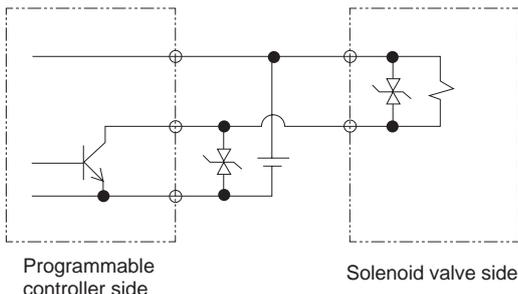
Specification voltage	Inverse voltage when OFF
12 VDC	Approx. 27 V
24 VDC	Approx. 47 V

- (2) If the output unit is NPN, always connect a contact protection circuit in order to avoid the risk of surge voltage equivalent to the sum of the voltage shown in the table above and the power supply voltage being applied to the output transistor.

[Output transistor protection circuit: Installation example 1]



[Output transistor protection circuit: Installation example 2]



- (3) If another device or solenoid valve is connected in parallel to the solenoid valve, the inverse voltage surge generated when the valve is OFF would apply to those devices. Even in the case of a solenoid valve with 24 VDC surge suppressor, a surge voltage may reach negative tens of volts for some models. This inverse voltage may cause damage or malfunction to other components connected in parallel. Avoid parallel connection of devices susceptible to inverse polarity voltages, e.g., LED indicators. When driving several solenoid valves in parallel, the surge from other solenoid valves may enter the surge suppressor of one solenoid valve, and it may burn depending on the current value. When driving several solenoid valves with surge suppressors in parallel, surge current could concentrate at the surge suppressor with the lowest limit voltage and cause similar burning. Due to the variations in surge suppressor limit voltage that exist even among solenoid valves of the same model No., in the worst case the surge suppressor may burn out. Avoid driving several solenoid valves in parallel.
- (4) The surge suppressor incorporated in the solenoid valve will often be short-circuited if it is damaged by overvoltage or overcurrent from other solenoid valves. Where there is a failed surge suppressor, if a large current flows when the output is ON, in the worst case scenario, the output circuit or solenoid valve could be damaged or ignited. Do not continue energizing in a state of failure. Additionally, to prevent large currents from continuing to flow, connect an overcurrent protection circuit to the power supply and drive circuit, or use a power supply with overcurrent protection.

2. Disassembly/assembly

⚠ CAUTION

- Be sure to turn power OFF and release the pressure before performing the following work.
- For the procedures for adding, disassembling, and assembling regulators and regulator blocks, due to specifications change or service life, refer to technical data (page 1222). Contact CKD for details.
 - Confirm that the connection key between blocks and the fitting stopper pin for the regulator block are securely assembled before use. In addition, for details on handling the valve block, refer to the instruction manual for MN4S0.