MN3E/MN4E

3, 4-port pilot operated valve

PLC compatible reduced wiring block manifold

Overview

More compact (39.5 mm high) and high-performance MN4E Series, cartridge 3, 4-port block manifold, is also available.

Features

Significant reduction of space for installation

Various size options including 10 mm and 7 mm valve widths and 7 mm pitch manifold are available.
Use the compact 7 mm pitch manifold to downsize the system and increase the density.

High performance

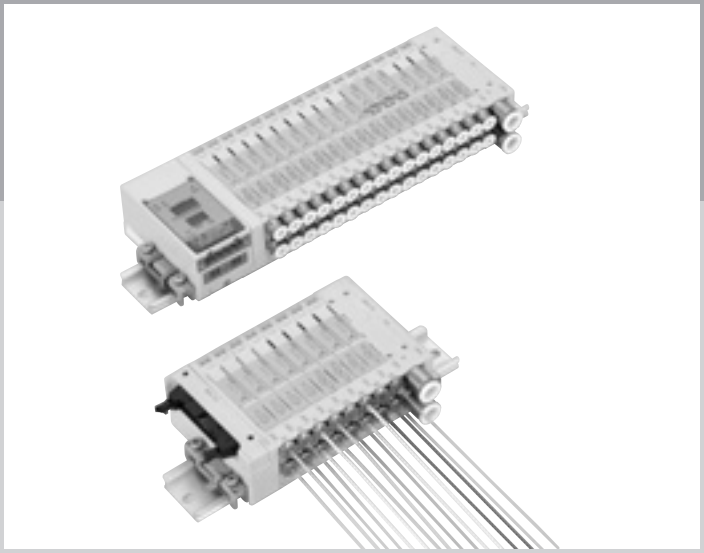
12 ms high-speed response is the most suitable for balancing ports A and B.

Easy-to-use

Usability of fittings has been improved to fit the compact valve. Various electrical connections including 32-point serial transmission are also available.

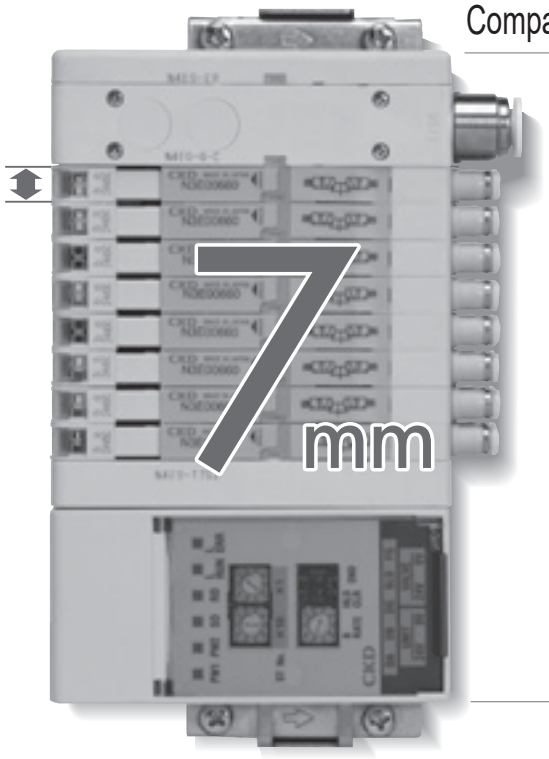
Environment- and safety-conscious

Environment-friendly wires have been adopted for internal wiring. An additional preventive measure has been implemented to prevent accidental operation of the valve.

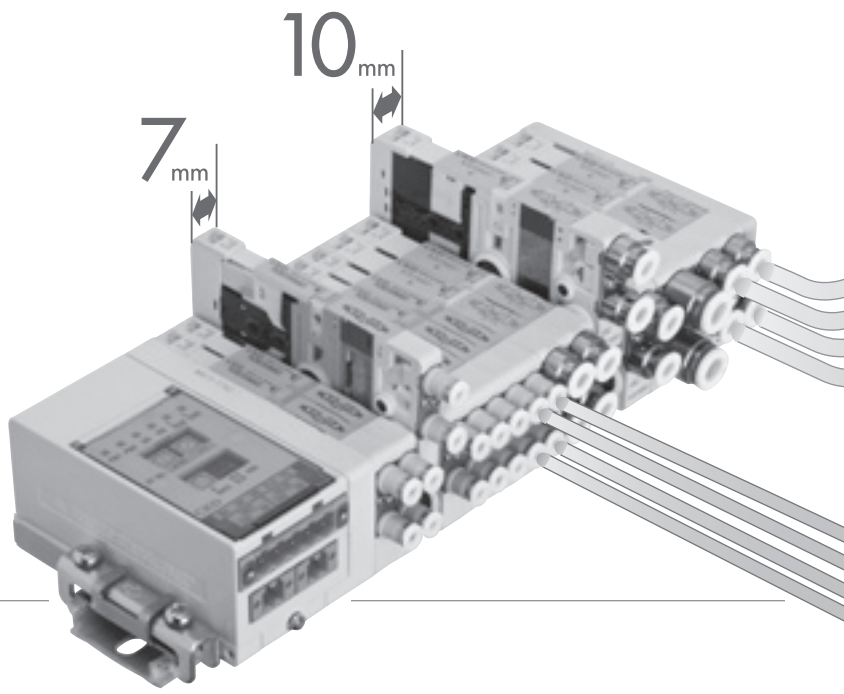


CONTENTS

Introducing pilot operated solenoid valve manifold of



Compact/reduced wiring 3, 4-port valve block manifold MN3/4E Series



NEW **MN3/4E00 Series**

ECO ø3 HIGH SPEC SAFETY

Compact, space-saving, and low power consumption design

Environmental conservation RoHS

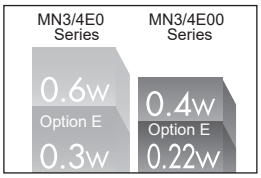
Lighter weight and reduced material usage by downsizing/energy saving. We were among the earliest to reduce chemical substances affecting the environment, including lead-free solder and materials compatible with JIG-101A level A.

Compact/space saving NEW

Introducing MN3/4E00 series of 7 mm valve block width and 7 mm pitch manifold in addition to the MN3/ 4E0 series of 10 mm valve block width type.
Use the compact 7 mm pitch manifold to downsize the system and increase the density.

ECO Energy saving NEW

MN3/4E0 Series: 0.6 W
MN3/4E00 Series: 0.4 W
Power saving (Option E) further reduces power consumption.



* Value for models with a lamp.

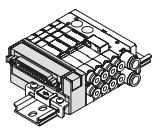
ø3 ø3 push-in fitting is available NEW

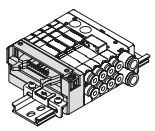
Along with reduction of piping volume and ensuring flow rate, it supports ø3 tubes, as well as ø1.8 tubes and contributes to the space saving of tube piping.

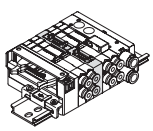
Variety

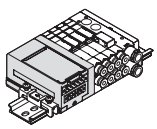
■ A wide range of electrical connections and options

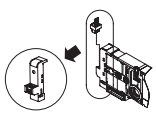
A wide range of electrical connections such as serial transmission corresponding to various connectors and networks are available.


D sub-connector


Flat cable connector


Intermediate electrical block

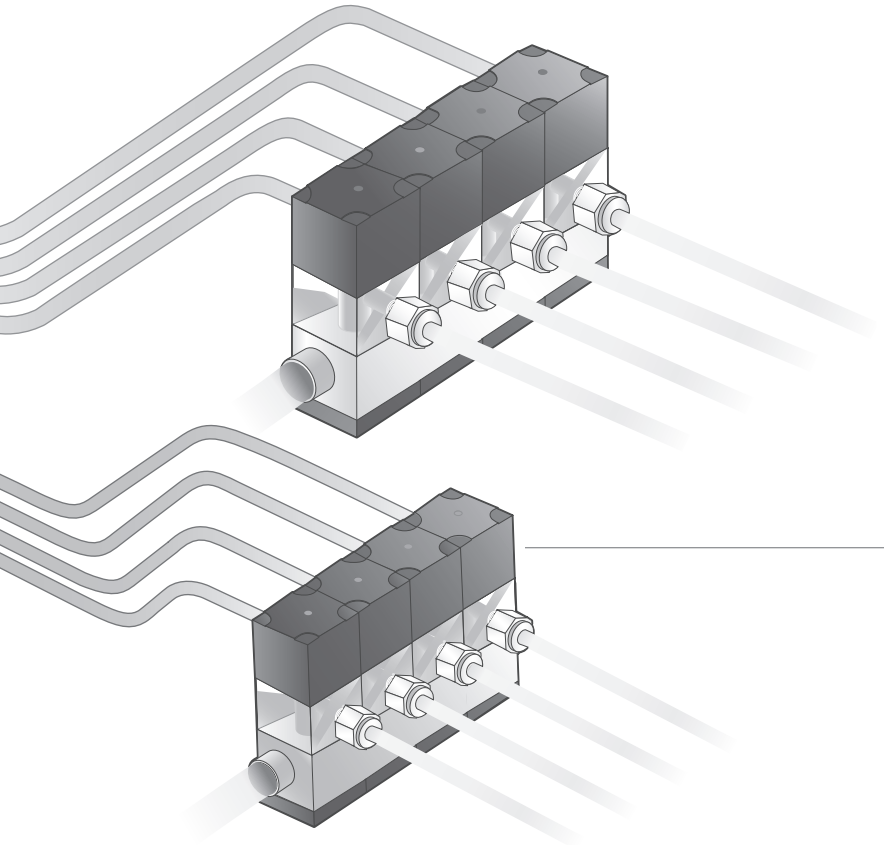

Serial transmission

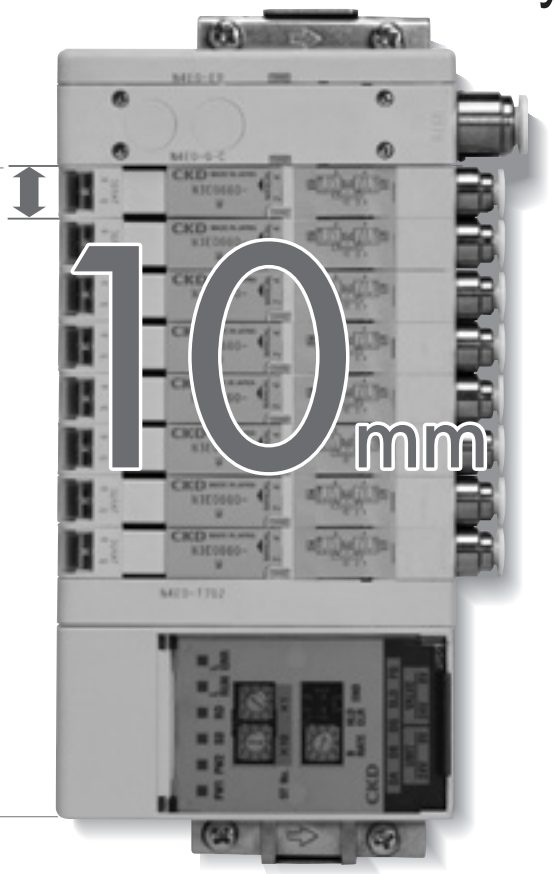

Individual wiring (7 mm,10 mm)


Individual wiring is also available in MN3/4E00 Series!!

7 mm pitch, maintaining high performance and safety

that is highly integrated/space-saving & high performance.





MN3/4E0 Series

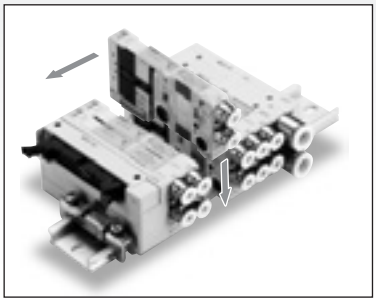
ECO HIGH SPEC SAFETY

High performance block manifold with excellent response. Compared to conventional models, space saving of approx. 50%.

HIGH SPEC High performance

■ 12 ms response for balancing ports A and B.
(Our data value with N3D0 two 3-port valves integrated)

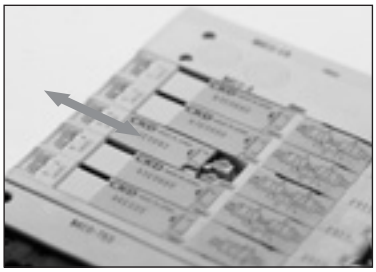
■ Cumbersome wiring work is not required
By connector connections, wiring is completed at the same time as assembling.
The regularity of the connector pin array remains undisturbed by electrical connections from both the left and right wiring blocks or by an increase or decrease in the valves.



Assembly structure

SAFETY Safety

■ Preventing malfunction
Exhaust check valve, manual override cover to prevent misoperation and air supply filter to prevent entry of foreign matter are provided as standard.
Pursuing safety to prevent valve malfunction.



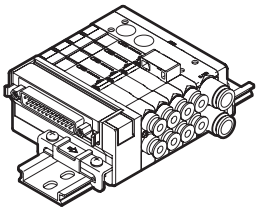
Manual cover

A wide range of wiring options

Wiring has been simplified to improve usability.

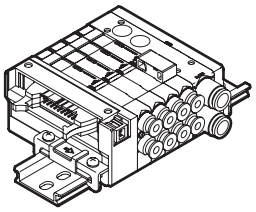
MN4E0
4E00

● D sub-connector (N4E0-T30 (N))



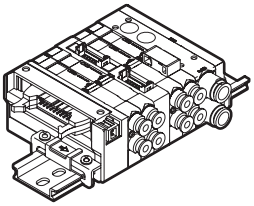
Connectors used for T30 wiring, called a D sub-connector, is used widely for FA and OA devices. The 25P in particular is also an RS-232-C Standards designated connector, used for personal computer communication.

● Flat cable connector (N4E0-T5*)



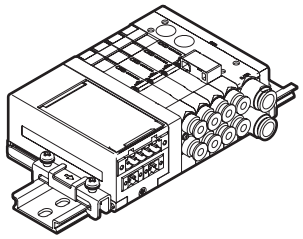
Connectors used for T5* wiring complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable.
Pin numbers are assigned differently based on the PLC maker, but the function assignment is the same.

● Intermediate wiring block (N4E0-TM*)



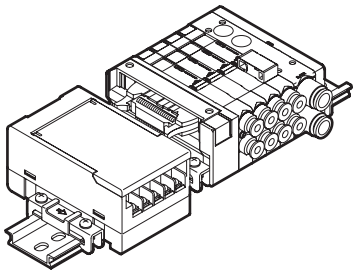
A reduced wiring connection can be made to the center of the manifold.
The 10P flat cable connector and 6P RITS connector are available.

● Serial transmission (close contact) (N4E0-T7*)



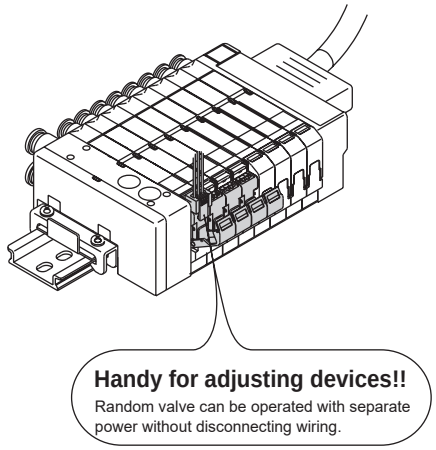
T7D1 T7D2	DeviceNet compatible (16 points, 32 points)
T7G1 T7G2	CC-Link compatible (16 points, 32 points)
T7N1 T7N2	S-LINK V compatible (16 points, 32 points)
T7EC1 T7EC2 T7ECT1 T7ECT2	EtherCAT (16 points, 32 points)
T7EN1 T7EN2	EtherNet/IP (16 points, 32 points)

● Serial transmission (N4E0-T6G1)



T6G1	CC-Link compatible (16 points)

● Type with individual power supply function (AUX) (MN3E0/MN4E0 Series only)



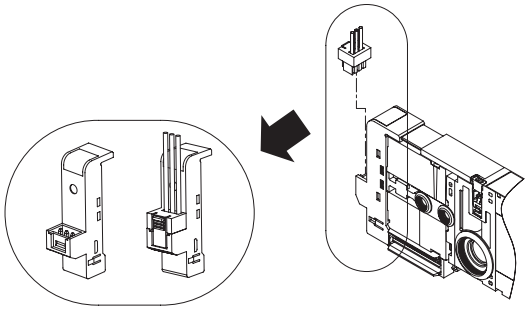
Individual external input is possible even with the reduced wiring manifold. Individual valve operation is possible without stopping the system.
Any arbitrary valve can be operated alone with an external power supply while common wiring is connected.
Compact design that keeps the same height.

● Application examples

Effective for equipment adjustment at startup or to facilitate maintenance.
Electrically operate a random valve without disconnecting wiring.
Electrically cut off any arbitrary valve without disconnecting the wiring.

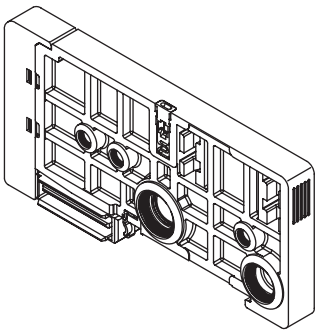
* The valve is cut off from the wiring in the manifold when the external input socket is inserted, so this can also be used as a temporary individual cut-off switch.

● Individual wiring system



Inputs can be made from individually from another system, independent from the common wiring using a reduced wiring system.

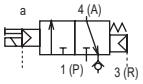
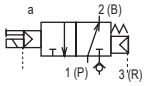
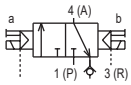
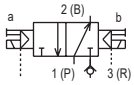
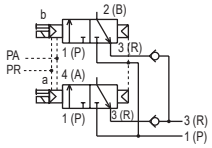
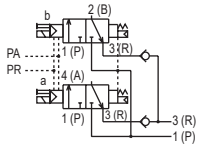
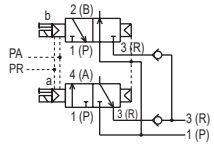
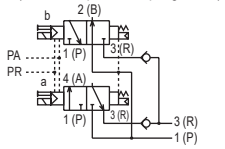
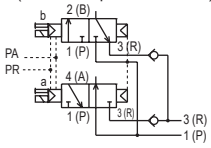
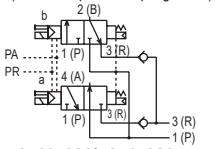
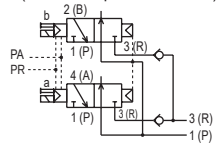
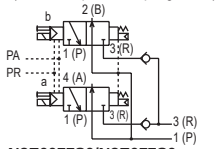
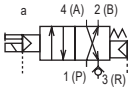
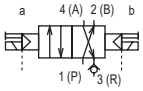
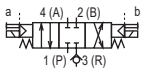
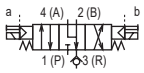
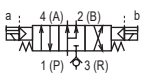
● Dummy block



Install a dummy block of appropriate wiring specifications if more valve blocks are added in future. This will enable the addition (replacement) of valve blocks without changing the reduced wiring signal assignment.

Series variation

MN3E$^{0}_{00}$ /MN4E$^{0}_{00}$ Series

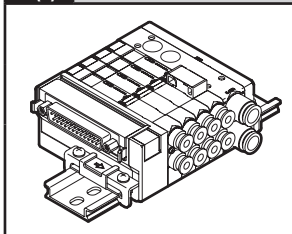
	External appearance of series	Position Number of solenoids (*1) JIS symbol * The JIS symbols for the actual part may differ from these drawings due to the relation of the space and port position.
3-port valve	**MN3E00** 3-port valve  (Valve pitch 7.0 mm)	3-port valve ● 2-position NC self reset (differential pressure spring return)  **N3E0010/N3E010** ● 2-position NO self reset (differential pressure spring return)  **N3E00110/N3E0110** ● 2-position NC self hold  **N3E0020/N3E020** ● 2-position NO self hold  **N3E00210/N3E0210**
	MN3E0 3-port valve  (Valve pitch 10.0 mm)	
Dual 3-port valve integrated	**MN3E00** Dual 3-port valve integrated  (Valve pitch 7.0 mm)	Dual 3-port valve integrated ● NC/NC self reset (differential pressure return)  **N3E00660/N3E0660** ● NC/NC self reset (differential pressure spring return)  **N3E0066S0/N3E066S0** ● NC/NO self reset (differential pressure return)  **N3E00670/N3E0670** ● NC/NO self reset (differential pressure spring return)  **N3E0067S0/N3E067S0**
	MN3E0 Dual 3-port valve integrated  (Valve pitch 10.0 mm)	● NO/NC self reset (differential pressure return)  **N3E00760/N3E0760** ● NO/NC self reset (differential pressure spring return)  **N3E0076S0/N3E076S0** ● NO/NO self reset (differential pressure return)  **N3E00770/N3E0770** ● NO/NO self reset (differential pressure spring return)  **N3E0077S0/N3E077S0**
4-port valve	**MN4E00** 4-port valve  (Valve pitch 7.0 mm)	4-port valve ● 2-position single self reset (differential pressure spring return)  **N4E0010/N4E010** ● 2-position double self hold  **N4E0020/N4E020**
	MN4E0 4-port valve  (Valve pitch 10.0 mm)	● 3-position all ports closed  **N4E030** ● 3-position A/B/R connection  **N4E040** ● 3-position P/A/B connection  **N4E050**

*1: Refer to "Self reset" on page 412 for operation of the self reset type.
*2: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 × C.

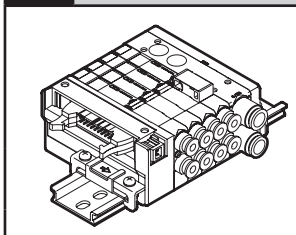
Flow characteristics C [dm³/(s·bar)] (*2)	Voltage (V)	Switching position: 3-port valve: Single N.C.	Single N.O.	Double N.C.	Double N.O.	Dual 3-port valve integrated: N.C. on A side, N.C. on B side	N.C. on A side, N.O. on B side	N.O. on A side, N.C. on B side	N.O. on A side, N.O. on B side	4-port valve: 2-position single	2-position double	3-position all ports closed	3-position A/B/R connection	3-position P/A/B connection	Mix	Port size of port A/B: Push-in fitting: ø1.8 C18	ø3 C3	ø4 C4	ø6 C6	Female thread: M3	M5	Fiber tube fitting CF	ø1/8 C3N	ø5/32 C4N	Electrical connections: Individual wiring D*	D sub-connector T30□ T30N□	Flat cable T5*	Intermediate electrical block TM*	Electrical block mix TX	Serial transmission T6G1 T7□	Reference page
0.3		●	●	●	●										●	●	●	●		●			●	●	●	●	●	●	●	●	344
0.54		●	●	●	●										●	●		●	●		●	●	●	●	●	●	●	●	●	●	360
0.3	(*3) 24 VDC 12 VDC					●	●	●	●						●	●	●	●		●			●	●	●	●	●	●	●	●	344
0.50	*3: Serial transmission is 24 VDC only.					●	●	●	●						●	●		●	●		●	●	●	●	●	●	●	●	●	●	360
0.3										●	●				●	●	●	●		●			●	●	●	●	●	●	●	●	344
0.54 0.50 (N4E030 N4E050)										●	●	●	●	●	●	●		●	●		●	●	●	●	●	●	●	●	●	●	360

Wiring method

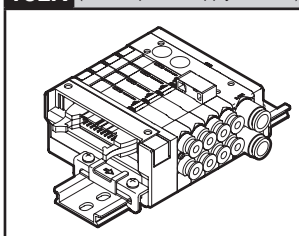
T30(N) T30(N)R D sub-connector



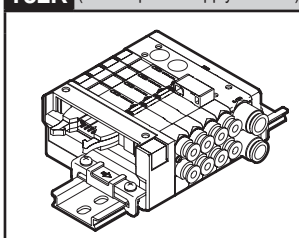
T50 T50R 20 pin flat cable connector (with power supply terminal)



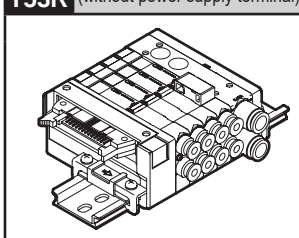
T51 T51R 20 pin flat cable connector (without power supply terminal)



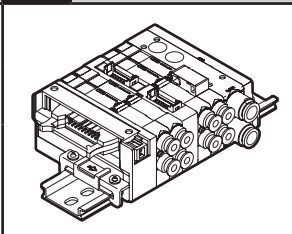
T52 T52R 10 pin flat cable connector (without power supply terminal)



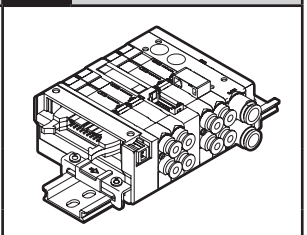
T53 T53R 26 pin flat cable connector (without power supply terminal)



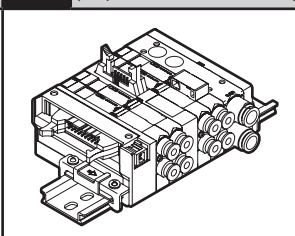
TM1A Intermediate electrical block (RITS6PX2)



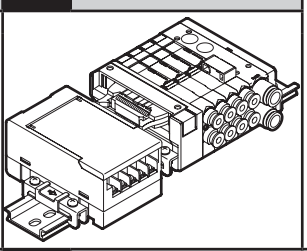
TM1C Intermediate electrical block (RITS6PX1)



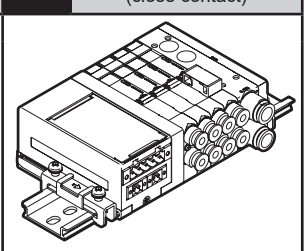
TM52 Intermediate electrical block (10 pin flat cable connector)



T6G1 Serial transmission

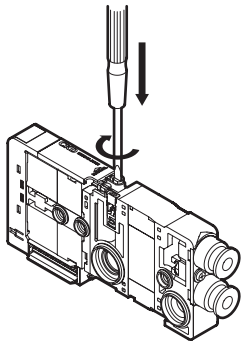


T7* Serial transmission (close contact)

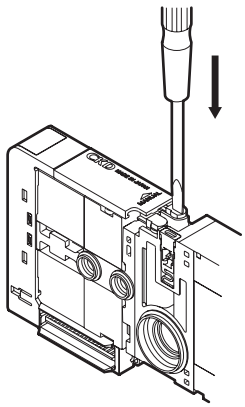


Manual operating device

Blank ● Common for locking and non-locking types (standard)



M For non-locking

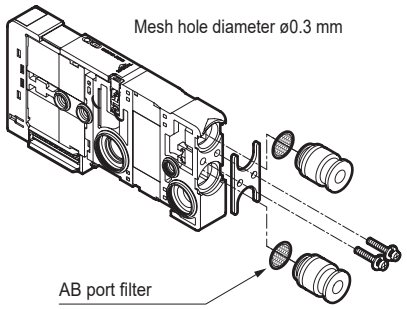


Other options

E Low heat/energy saving circuit

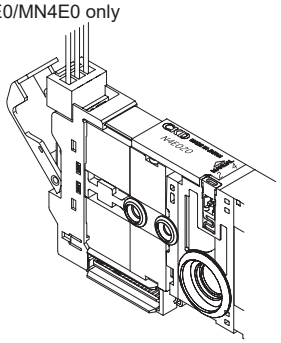
A Ozone proof

F A/B port filter integrated

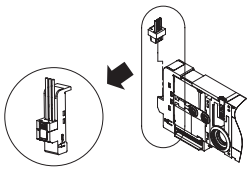


U Built-in individual power supply function (AUX)

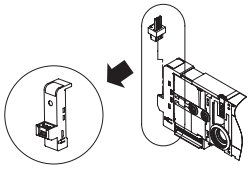
* MN3E0/MN4E0 only



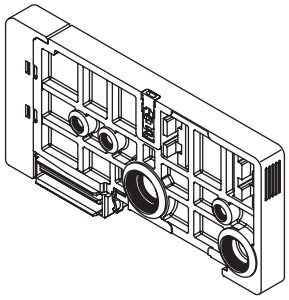
D* Individual wiring D-connector



D* Individual wiring D-connector without socket/with socket and terminal

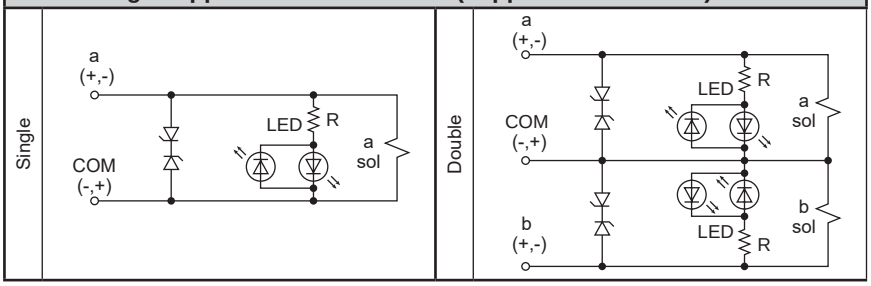


Dummy block

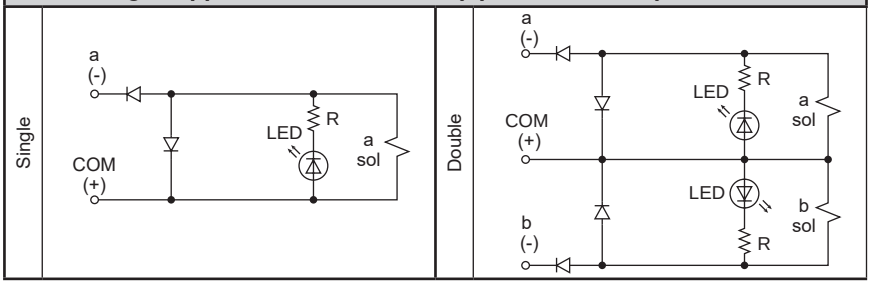


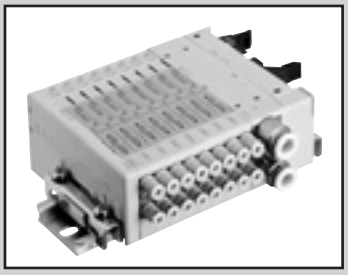
Electric connection circuit diagram

With surge suppressor and indicator (supplied as standard)



With surge suppressor and indicator (options: E and U)





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

MN3E00/MN4E00 Series

Structure and material restriction

	Structure	Model No.
P7 Series	Exhaust treatment	− P70

Common specifications

Descriptions	
Manifold method	Block manifold
Manifold	Common supply/exhaust, check valve integrated (*1)
Working fluid	Compressed air
Valve and operation	Pilot operated soft spool valve
Max. working pressure MPa	0.7
Min. working pressure MPa	0.2
Proof pressure MPa	1.05
Ambient temperature °C	5 to 55
Fluid temperature °C	5 to 55
Lubrication	Not required (*2)
Degree of protection	Dust proof
Vibration resistance m/s^2	50 or less
Shock resistance m/s^2	300 or less
Atmosphere	Containing corrosive gas is not permissible
Manual operating device	Locking/non-locking common or non-locking

*1: Check valve blocks the back pressure from adjacent air devices, etc. However, the structure does not let the pressure seal be held continuously, so do not use for other than the back pressure block.

Electrical specifications

Descriptions		
Rated voltage V		12, 24 VDC
Voltage fluctuation range		±10% (using serial transmission +10%, −5%)
Holding current A	24 VDC	0.017 (0.009) (*3)
	12 VDC	0.033 (0.018) (*3)
Power consumption W	24 VDC	0.4 (0.22) (*3)
	12 VDC	
Thermal class		B
Indicator		LED

*2: As this product is non-lubrication, adding oil may cause leakage of the grease initially sealed in, which may prevent the product from working at its maximum performance.
*3: Values shown in ( ) are for low-heat and energy saving circuit. When you use the valve block of low-heat and energy saving circuit, power supply is limited to the plus common.

Individual specifications

Item \ Port		3-port valve	4-port valve	Dual 3-port valve integrated (*1)
Port size	A/B port	ø1.8, ø3, ø4 push-in fitting, M3		
	P/R port	ø6, ø8 push-in fitting		
	External pilot port	ø6 push-in fitting		-

*1: The two 3-port valve integrated types use the main pressure to operate the valving element, and therefore cannot be used with the 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.

Max. number of stations energized by manifold

● T3□/ T5□/ TM□/ T6G1

Item		MN3E00/MN4E00								
		T30(N)	T50	T51	T52	T53	TM1A	TM1C	TM52	T6G1
Max. No. stations	Standard wiring	24 stations	16 stations	18 stations	8 stations	24 stations	10 stations	5 stations	8 stations	16 stations
	Double wiring	12 stations	8 stations	9 stations	4 stations	12 stations	5 stations	2 stations	4 stations	8 stations
Max. No. of solenoids		24 points	16 points	18 points	8 points	24 points	10 points	5 points	8 points	16 points

● T7□

Item		MN3E00/MN4E00									
		T7D1	T7D2	T7G1	T7G2	T7N1	T7N2	T7EC□1	T7EC□2	T7EN1	T7EN2
Max. No. stations	Standard wiring	16 stations	32 stations	16 stations	32 stations	16 stations	32 stations	16 stations	32 stations	16 stations	32 stations
	Double wiring	8 stations	16 stations	8 stations	16 stations	8 stations	16 stations	8 stations	16 stations	8 stations	16 stations
Max. No. of solenoids		16 points	32 points	16 points	32 points	16 points	32 points	16 points	32 points	16 points	32 points

Performance/characteristics by model

Item \ Port		3-port valve	4-port valve	Two 3-port valves integrated
Response time (*1) ms	2-position Single	20 or less	20 or less	20 or less
	(*1) ms	20 or less	20 or less	-

*1: The response times are values with supply pressure of 0.5 MPa, without lubrication.

Flow characteristics

		P→A/B		A/B→R	
		C [dm³/(s·bar)]	b	C [dm³/(s·bar)]	b
3-port valve	2-position	0.30	0.20	0.32	0.24
4-port valve	2-position	0.30	0.20	0.32	0.24
Dual 3-port valve integrated	2-position	0.30	0.20	0.32	0.24

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≒ 5.0 × C. *2: Values for ø4 push-in fitting

Slave unit specifications

Item		T6G1 (*1)	T7D1 T7D2	T7G1 (*1) T7G2	T7N1 T7N2	T7EC□1 T7EC□2	T7EN1 T7EN2
Power supply voltage	Unit side	24 VDC ±10%	24 VDC ±10%				
	Valve side	24 VDC +10% −5%	24 VDC +10% −5%				
	Communication side	-	11 to 25 VDC	-			
Current consumption	Unit side	100 mA or less (When all points output ON)	T7D1: 60 mA or less T7D2: 85mA or less (When all points output ON)	T7G1: 65mA or less T7G2: 90mA or less (When all points output ON)	T7N1:40mA or less T7N2:50mA or less (When all points output ON)	120 mA or less (When all points output ON)	120 mA or less (When all points output ON)
	Valve side	15 mA or less (when all points are OFF)	15 mA or less (when all points are OFF)				
	Communication side	-	50 mA or less	-			
Output points		16 points	T7D1: 16 points T7D2: 32 points	T7G1: 16 points T7G2: 32 points	T7N1: 16 points T7N2: 32 points	T7EC□1: 16 points T7EC□2: 32 points	T7EN1: 16 points T7EN2: 32 points
Occupied number		1 station	T7D1: 2 bytes T7D2: 4 bytes	T7G1: 1 station T7G2: 1 station	T7N1: output 16 points T7N2: output 32 points	T7EC□1: 1 address T7EC□2: 1 address	T7EN1: 1 address T7EN2: 1 address

*1: CC-Link of Ver.1.10

Weight

Electrical block (g)		D sub-connector T30(N)	Flat cable connector T5*	Intermediate electrical block		Serial transmission		
				TM1*	TM52	T6G1	T7*	T7E**
		67	59	32	34	205	128	145
Supply and exhaust block (g)		Q/QZ	QK	QKZ	QX		QKX	
	Fitting Lateral	64	69	79	56		61	
	Fitting Facing up	90	94	98	62		66	
Valve block (g)		2-position single	2-position double	Dual 3-port valve integrated				
	Fitting Lateral	31.5	35.0	35.0				
	Fitting Facing up	37.5	41.0	41.0				
Dummy block (g)		MPS/MPD						
		20						
End block (g)		ER/EL						
		40						
DIN rail (g)		-						
		0.19 g/mm						

How to order manifold D sub/flat cable connector

* Refer to page 350 for serial transmission.

● Discrete valve block

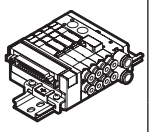
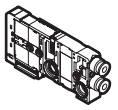
N 3 E00 1 0 - C3 - M D2 W EF —— 3 - P70

● Block manifold

MN 4 E00 1 0 - C3 - M T53 D2 E - 5 - 3 - P70

- MN: DIN rail mount
- 4: Valve
- 1: Solenoid position
- C3: Port size
- M: Manual operating device
- T53: Wiring method
- D2: Individual wiring
- E: Terminal and connector pin wiring
- 5: Station No.
- 3: Voltage
- P70: Clean room specifications

* Always indicate "Manifold specifications" (page 410).

Type	
Block manifold	Discrete valve block
	

Code	Content		Block manifold	Discrete valve block
Ⓐ Valve				
3	3-port valve or two 3-port valves integrated		●	●
4	4-port valve or 3, 4-port valve mix		●	●
Ⓑ Solenoid position (*10)				
1	3-port valve: Single NC self reset	(differential pressure spring return)	●	●
11	3-port valve: Single NO self reset	(differential pressure spring return)	●	●
2	3-port valve: Double NC self holding		●	●
21	3-port valve: Double NO self holding		●	●
66	Dual 3-port valve integrated (*1): A side valve: NC self reset	(differential pressure return)	●	●
66S	Dual 3-port valve integrated (*1): B side valve: NC self reset	(differential pressure spring return)	●	●
67	Dual 3-port valve integrated (*1): A side valve: NC self reset	(differential pressure return)	●	●
67S	Dual 3-port valve integrated (*1): B side valve: NO self reset	(differential pressure spring return)	●	●
76	Dual 3-port valve integrated (*1): A side valve: NO self reset	(differential pressure return)	●	●
76S	Dual 3-port valve integrated (*1): B side valve: NC self reset	(differential pressure spring return)	●	●
77	Dual 3-port valve integrated (*1): A side valve: NO self reset	(differential pressure return)	●	●
77S	Dual 3-port valve integrated (*1): B side valve: NO self reset	(differential pressure spring return)	●	●
1	4-port valve: 2-position single self reset	(differential pressure spring return)	●	●
2	4-port valve: 2-position double self hold		●	●
8	Mixed manifold		●	
Ⓒ Port size				
C18	ø1.8 push-in fitting, Lateral (applicable tube UP-9402-**)		●	●
CL18	ø1.8 push-in fitting, Facing up (applicable tube UP-9402-**)		●	●
C3	ø3 push-in fitting, Lateral		●	●
CL3	ø3 push-in fitting, Facing up		●	●
C4	ø4 push-in fitting, Lateral		●	●
CL4	ø4 push-in fitting, Facing up		●	●
M3	M3 female thread (with non-rotation)		●	●
CX	Mix push-in fitting (*10)		●	
C3N	ø1/8" push-in fitting, Lateral		●	●
CL3N	ø1/8" push-in fitting, Facing up		●	●
C4N	ø5/32" push-in fitting, Lateral		●	●
CL4N	ø5/32" push-in fitting, Facing up		●	●
CXN	Mix push-in fitting (*10)		●	
Ⓓ Manual operating device				
Blank	Non-locking/locking common (with manual cover)		●	●
M	Manual override for non-locking (with manual cover)		●	●
Ⓔ Wiring method				
Refer to the following page about wiring method.			●	
Ⓕ Terminal and connector pin wiring				
Blank	Standard wiring		●	●
W	Double wiring (*2, 3)		●	●
Ⓖ Option				
Blank	None		●	●
E	Low-heat and energy saving circuit (*4, 5)		●	●
F	Port A/B filter integrated (*6)		●	●
Ⓗ Station No.				(*9)
1	1 station		●	
to	to			
24	24 stations (*7)			
Ⓘ Voltage				
3	24 VDC		●	●
4	12 VDC		●	●

· For model No. of the cable with D sub-connector, refer to page 390.

⚠ Precautions for model No. selection

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

***2: Check the connector pin layout (example) given on pages 389 to 396 for the double wiring specifications.** When ordering a single valve block, the double wiring designation is limited to the 2-position single solenoid for the 4-port valve, and the 3-port valve.

*3: Double wiring is not available for discrete individual wiring valve block.

*4: Energizing is limited to the plus common.

*5: Individual wiring is not available for low exoergic/energy-saving circuit.

*6: A filter (for preventing entry of foreign matter) is incorporated in the supply/ exhaust block's P port.

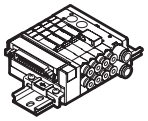
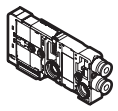
***7: This differs based on the specifications. Refer to page 344.**

***8: For specifications of the self reset, refer to the precautions on page 412.** To include a dummy block, select mix manifold.

*9: A dummy block is counted in the station No.

*10: A mix of metric fittings, M3 female threads, and inch fittings cannot be selected.

(Wiring method list)

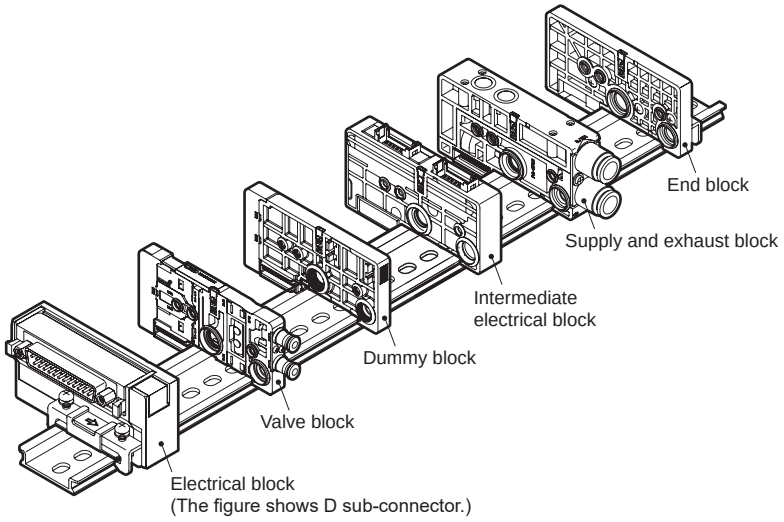
Code	Content		Type: Block manifold	Type: Discrete valve block
				
Ⓔ Wiring method				
T30(N)	25 pin D sub-connector, left		●	
T30(N)R	25 pin D sub-connector, right		●	
T50	20 pin flat cable connector, left (with power supply terminal) (*11)		●	
T50R	20 pin flat cable connector, right (with power supply terminal) (*11)		●	
T51	20 pin flat cable connector, left		●	
T51R	20 pin flat cable connector, right		●	
T52	10 pin flat cable connector, left		●	
T52R	10 pin flat cable connector, right		●	
T53	26 pin flat cable connector, left		●	
T53R	26 pin flat cable connector, right		●	
TM1A	Intermediate wiring block	RITS connector 6P × 2 (*12)	●	
TM1C	Intermediate wiring block	RITS connector 6P (*12)	●	
TM52	Intermediate wiring block	10 pin flat cable connector	●	
TX	Electrical block mix (*13, 14, 15)		●	
Blank	Valve block for reduced wiring			●
D2	Individual wiring	D connector 300 mm	●	●
D20	Individual wiring	D connector 500 mm	●	●
D21	Individual wiring	D connector 1000 mm	●	●
D22	Individual wiring	D connector 2000 mm	●	●
D23	Individual wiring	D connector 3000 mm	●	●
D2N	Individual wiring	D connector without socket	●	●
D3	Individual wiring	D connector with socket/terminal	●	●

*11: T50 and T50R with power supply terminal can be combined only with T50R and T50 respectively.
*12:RITS connector 6P (1473562-6) Tyco Electronics Japan G.K.
*13: Request 2 pcs in the manifold specifications sheet.Contact CKD for 3 pcs. or more.
*14: Individual wiring is not available for the TX wiring method.
*15: When selecting TX wiring method, the max. station No. is 24.
* Individual wiring: Individual wiring specification is available with valve blocks designated for it.

Ozone specifications

Ozone-proof specifications are available as standard.

Manifold components explanation and parts list



Example of main component model No.

(Refer to pages 378 to 387 for details.)

Parts name	Model No. (example)	Parts name	Model No. (example)
Electrical block	N4E0-T30-P70	Intermediate wiring block	N4E0-TM1A-P70
Valve block	N4E0020-C3-3-P70	Supply and exhaust block	N4E0-Q-8-P70
Dummy block	N4E0-MPD-P70	End block	N4E0-ER-P70

Related parts list

Parts name	Model No. (example)	Parts name	Model No. (example)
Cartridge push-in fitting and related parts	N4E00-JOINT-C18-P70	Cartridge push-in fitting and related parts	N4E00-JOINT-CPG-P70
	N4E00-JOINT-C3-P70		
	N4E00-JOINT-C4-P70		
	N4E00-JOINT-CL18-P70		
	N4E00-JOINT-CL3-P70		
	N4E00-JOINT-CL4-P70		
	N4E00-JOINT-C3N-P70		
	N4E00-JOINT-C4N-P70		
	N4E00-JOINT-CL3N-P70		
	N4E00-JOINT-CL4N-P70		

MEMO

How to order manifold Serial transmission

* Refer to page 346 for details on D sub-connector/flat cable connector.

● Discrete valve block

N 3 E00 1 0 - C3 - M D2 W EF — 3 - P70

● Block manifold

MN 4 E00 1 0 - C3 - M T6G1 D2 E - 5 - 3 - P70

- MN: DIN rail mount
- 4: Ⓐ Valve
- 1: Ⓑ Solenoid position
- C3: Ⓒ Port size
- M: Ⓓ Manual operating device
- T6G1: Ⓔ Wiring method (serial transmission)
- D2: Individual wiring
- EF: Ⓕ Terminal and connector pin wiring
- E: Ⓖ Option
- 5: Ⓗ Station No.
- 3: Ⓘ Voltage
- P70: Clean room specifications

* Always indicate "Manifold specifications" (page 410).

Code	Content		Type: Block manifold	Type: Discrete valve block
Ⓐ Valve				
3	3-port valve or two 3-port valves integrated		●	●
4	4-port valve or 3, 4-port valve mix		●	●
Ⓑ Solenoid position (*10)				
1	3-port valve	Single NC self reset	(differential pressure spring return)	●	●
11	3-port valve	Single NO self reset	(differential pressure spring return)	●	●
2	3-port valve	Double NC self holding		●	●
21	3-port valve	Double NO self holding		●	●
66	Dual 3-port valve integrated (*1)	A side valve: NC self reset	(differential pressure return)	●	●
66S	Dual 3-port valve integrated (*1)	B side valve: NC self reset	(differential pressure spring return)	●	●
67	Dual 3-port valve integrated (*1)	A side valve: NC self reset	(differential pressure return)	●	●
67S	Dual 3-port valve integrated (*1)	B side valve: NO self reset	(differential pressure spring return)	●	●
76	Dual 3-port valve integrated (*1)	A side valve: NO self reset	(differential pressure return)	●	●
76S	Dual 3-port valve integrated (*1)	B side valve: NC self reset	(differential pressure spring return)	●	●
77	Dual 3-port valve integrated (*1)	A side valve: NO self reset	(differential pressure return)	●	●
77S	Dual 3-port valve integrated (*1)	B side valve: NO self reset	(differential pressure spring return)	●	●
1	4-port valve	2-position single self reset	(differential pressure spring return)	●	●
2	4-port valve	2-position double self hold		●	●
8	Mixed manifold			●	
Ⓒ Port size					
C18	ø1.8 push-in fitting, Lateral (applicable tube UP-9402-**)			●	●
CL18	ø1.8 push-in fitting, Facing up (applicable tube UP-9402-**)			●	●
C3	ø3 push-in fitting, Lateral			●	●
CL3	ø3 push-in fitting, Facing up			●	●
C4	ø4 push-in fitting, Lateral			●	●
CL4	ø4 push-in fitting, Facing up			●	●
M3	M3 female thread (with non-rotation)			●	●
CX	Mix push-in fitting (*10)			●	
C3N	ø1/8" push-in fitting, Lateral			●	●
CL3N	ø1/8" push-in fitting, Facing up			●	●
C4N	ø5/32" push-in fitting, Lateral			●	●
CL4N	ø5/32" push-in fitting, Facing up			●	●
CXN	Mix push-in fitting (*10)			●	
Ⓓ Manual operating device					
Blank	Non-locking/locking common (with manual cover)			●	●
M	Manual override for non-locking (with manual cover)			●	●
Ⓔ Wiring method					
Refer to the following page about wiring method.				●	
Ⓕ Terminal and connector pin wiring					
Blank	Standard wiring			●	●
W	Double wiring (*2, 3)			●	●
Ⓖ Option					
Blank	None			●	●
E	Low-heat and energy saving circuit (*4, 5)			●	●
F	Port A/B filter integrated (*6)			●	●
Ⓗ Station No.					(*11)
1	1 station			●	
to	to				
32	32 stations (*7)				
Ⓘ Voltage					
3	24 VDC			●	●

⚠ Precautions for model No. selection

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

***2: Check the connector pin layout (example) given on pages 399 to 403 for the double wiring specifications.** When ordering a single valve block, the double wiring designation is limited to the 2-position single solenoid for the 4-port valve, and the 3-port valve.

*3: Double wiring is not available for a single unit of individual wiring valve block.

*4: Energizing is limited to the plus common.

*5: For a type of unit with a low-heat-generating/power-saving circuit built-in, individual wiring cannot be selected.

*6: A filter (for preventing entry of foreign matter) is incorporated in the supply/ exhaust block's P port.

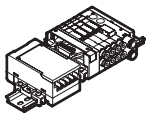
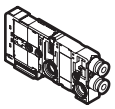
***7: This differs depending on the specifications. Refer to page 344.**

***8: For specifications of the self reset, refer to the precautions on page 412.** To include a dummy block, select mix manifold.

*9: A dummy block is counted in the station No.

*10: The combination of metric and inch fittings is not available.

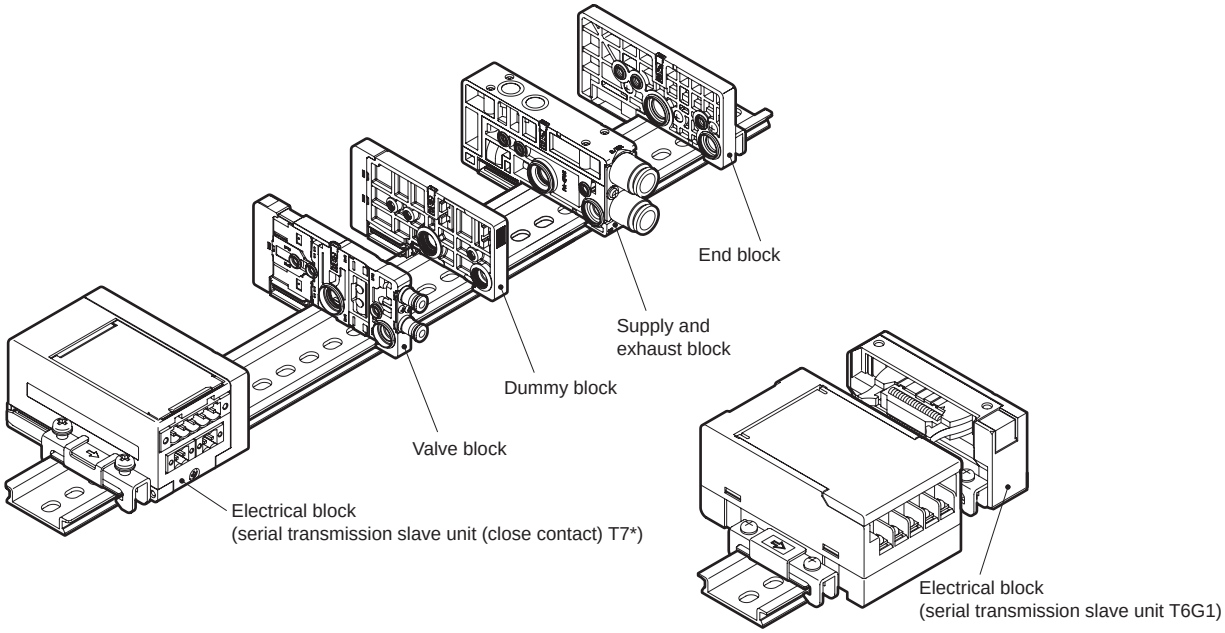
(Wiring method list)

Code	Content		Type: Block manifold	Type: Discrete valve block
				
E Wiring method				
T6G1	CC-Link 16 points		●	
T7D1	Close contact type DeviceNet 16 points		●	
T7D2	Close contact type DeviceNet 32 points		●	
T7G1	Close contact type CC-Link 16 points		●	
T7G2	Close contact type CC-Link 32 points		●	
T7N1	Close contact type S-LINK V 16 points		●	
T7N2	Close contact type S-LINK V 32 points		●	
T7EC1	Close contact EtherCAT 16 points (port side leadout)		●	
T7EC2	Close contact EtherCAT 32 points (port side leadout)		●	
T7ECT1	Close contact EtherCAT 16 points (wiring side leadout)		●	
T7ECT2	Close contact EtherCAT 32 points (wiring side leadout)		●	
T7EN1	Close contact EtherNet/IP 16 points		●	
T7EN2	Close contact EtherNet/IP 32 points		●	
Blank	Valve block for reduced wiring			●
D2	Individual wiring	D type connector 300 mm	●	●
D20		D type connector 500 mm	●	●
D21		D type connector 1000 mm	●	●
D22		D type connector 2000 mm	●	●
D23		D type connector 3000 mm	●	●
D2N		D type connector without socket	●	●
D3		D type connector with socket/terminal	●	●

Ozone specifications

Ozone-proof specifications are available as standard.

Manifold components explanation and parts list



Example of main component model No.

(Refer to pages 378 to 387 for details.)

Parts name	Model No. (example)	Parts name	Model No. (example)
Electrical block	N4E0-T7G2-P70	Supply and exhaust block	N4E0-Q-8-P70
Valve block	N4E0020-C3-3-P70	End block	N4E0-ER-P70
Dummy block	N4E0-MPD-P70		

Related parts list

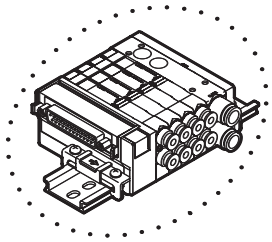
Parts name	Model No. (example)	Parts name	Model No. (example)
Cartridge push-in fitting and related parts	N4E00-JOINT-C18-P70	Cartridge push-in fitting and related parts	N4E00-JOINT-CPG-P70
	N4E00-JOINT-C3-P70		
	N4E00-JOINT-C4-P70		
	N4E00-JOINT-CL18-P70		
	N4E00-JOINT-CL3-P70		
	N4E00-JOINT-CL4-P70		
	N4E00-JOINT-C3N-P70		
	N4E00-JOINT-C4N-P70		
	N4E00-JOINT-CL3N-P70		
	N4E00-JOINT-CL4N-P70		

MEMO

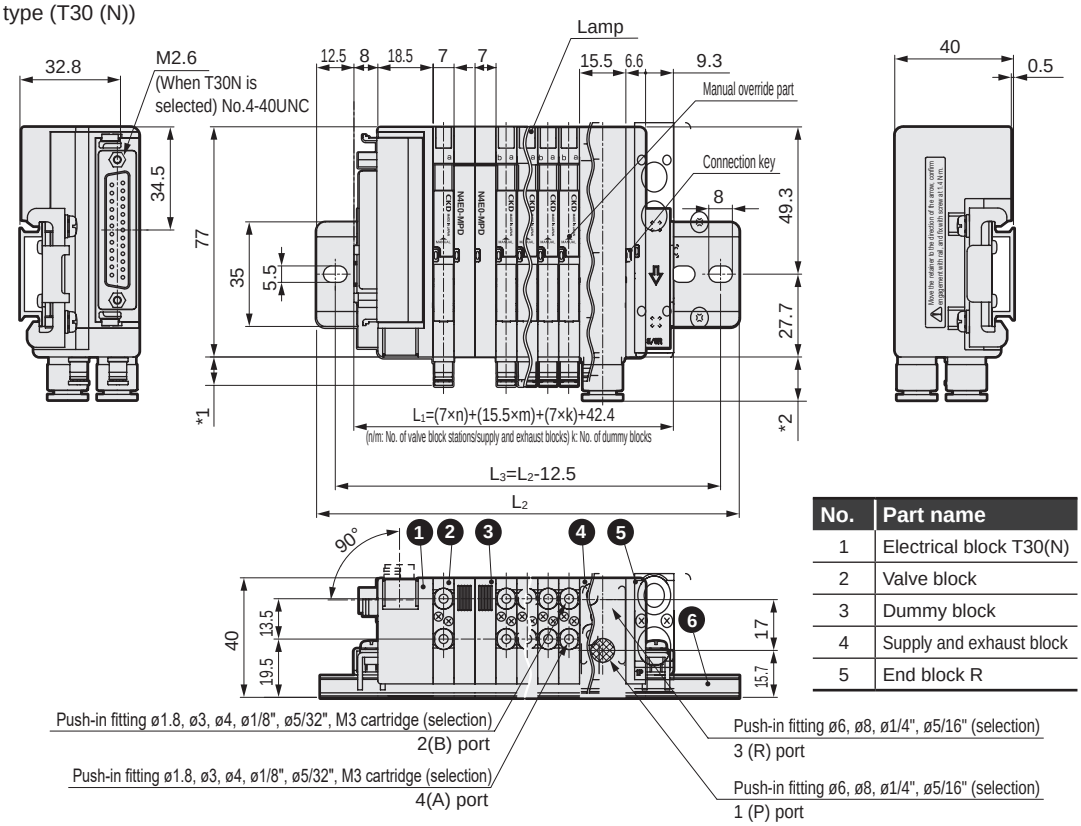
Dimensions

MN$^{3}_{4}$E00*-*-T30(N)*-*-*-P70

● D-sub-connector left side type (T30 (N))



* D sub-connector can be faced up or down.
* For how to switch the connector direction, refer to page 359.



(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

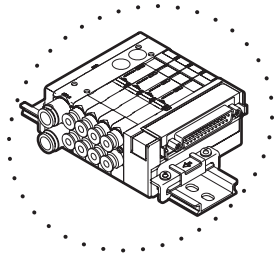
(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

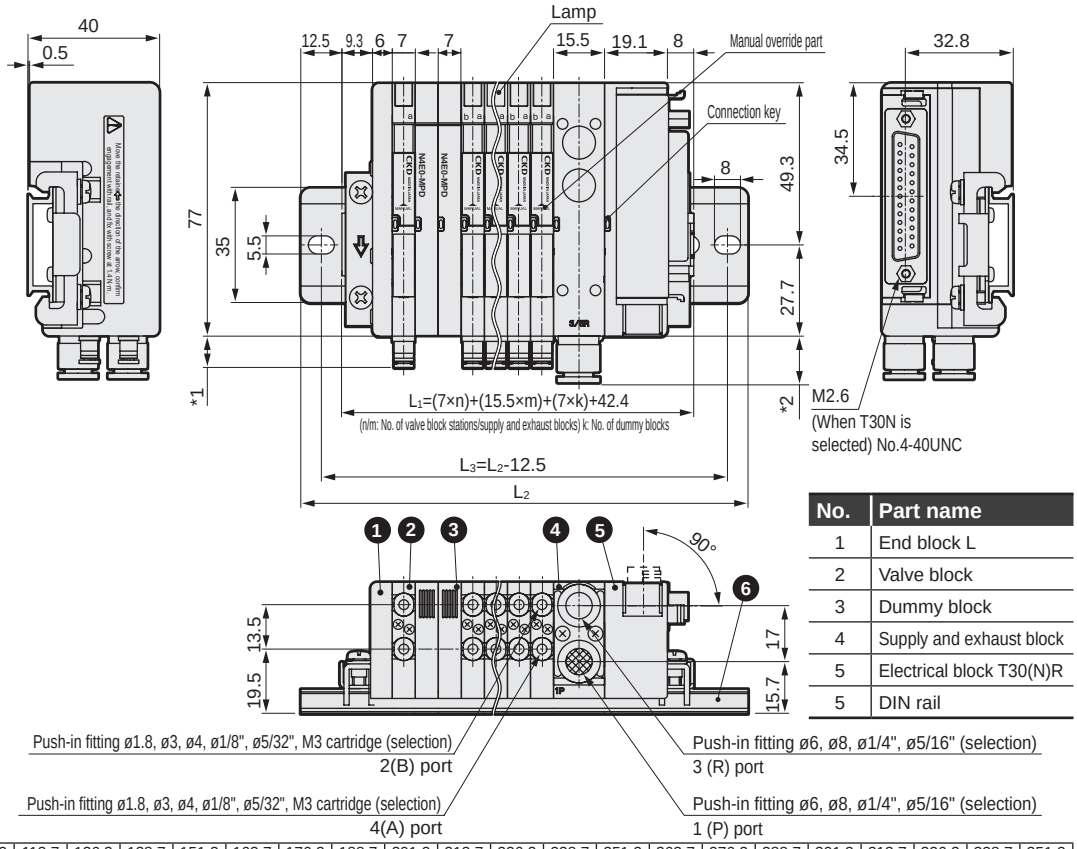
No.	Part name
1	Electrical block T30(N)
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R

* For dimensions of the radial push-in fitting (Facing up) for valve block and for supply and exhaust block, refer to page 349.

MN$^{3}_{4}$E00*-*-T30(N)R*-*-*-P70

● D sub-connector, right (T30(N)R)





(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

No.	Part name
1	End block L
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	Electrical block T30(N)R
5	DIN rail

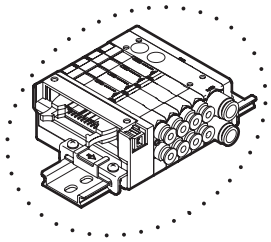
Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

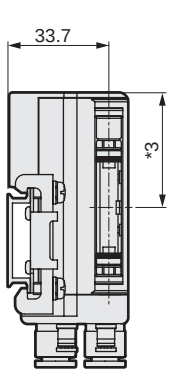
Dimensions

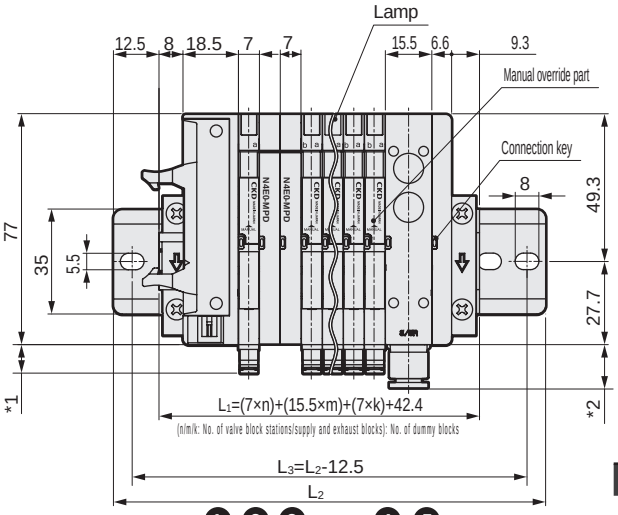
MN$^{3}_{4}$E00*-*-T50*-*-*-P70

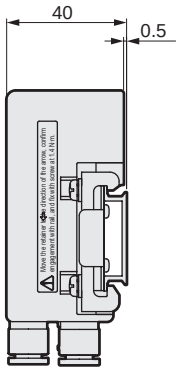
● Flat cable connector, left (T50)

*** T51, T52 and T53 are also available. Dimensions are same as those of T50. *3 Refer to the connector dimensions.**





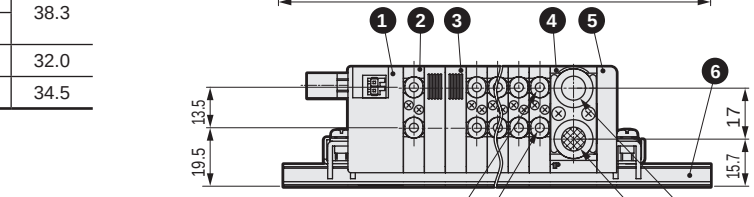




(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

(*2) Connector dimensions	
T50	38.3
T51	
T52	32.0
T53	34.5

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3



Push-in fitting ø1.8, ø3, ø4, ø1/8", ø5/32", M3 cartridge (selection)
2(B) port

Push-in fitting ø1.8, ø3, ø4, ø1/8", ø5/32", M3 cartridge (selection)
4(A) port

Push-in fitting ø6, ø8, ø1/4", ø5/16" (selection)
3 (R) port

Push-in fitting ø6, ø8, ø1/4", ø5/16" (selection)
1 (P) port

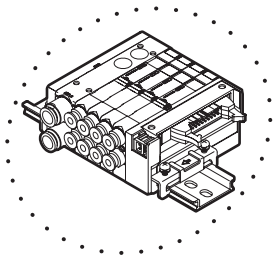
No.	Part name
1	Electrical block T50
2	Valve block
3	Dummy block5
4	Supply and exhaust block
5	End block R
6	DIN rail

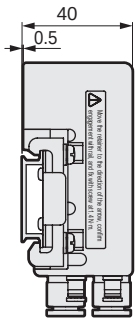
*** For dimensions of the radial push-in fitting (Facing up) for valve block and for supply and exhaust block, refer to page 359.**

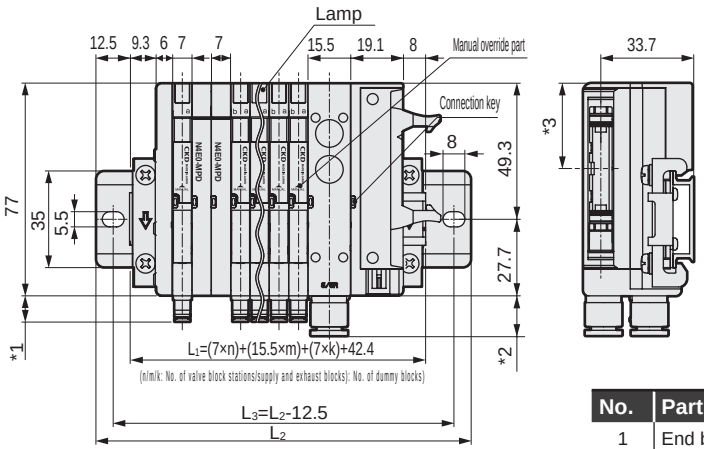
*** A power feed connector can be used with T50 to supply power to the PLC output unit. Refer to page 359 for how to connect the connector and refer to the wiring precautions on page 391 for how to wire.**

MN$^{3}_{4}$E00*-*-T50R*-*-*-P70

● Flat cable connector, right (T50R)



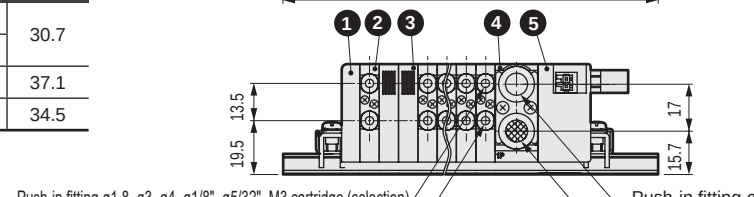




(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

(*2) Connector dimensions	
T50R	30.7
T51R	
T52R	37.1
T53R	34.5

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3



Push-in fitting ø1.8, ø3, ø4, ø1/8", ø5/32", M3 cartridge (selection)
2(B) port

Push-in fitting ø1.8, ø3, ø4, ø1/8", ø5/32", M3 cartridge (selection)
4(A) port

Push-in fitting ø6, ø8, ø1/4", ø5/16" (selection)
3 (R) port

Push-in fitting ø6, ø8, ø1/4", ø5/16" (selection)
1 (P) port

No.	Part name
1	End block L
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	Electrical block T50R
6	DIN rail

Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

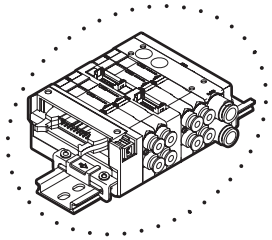
Dimensions

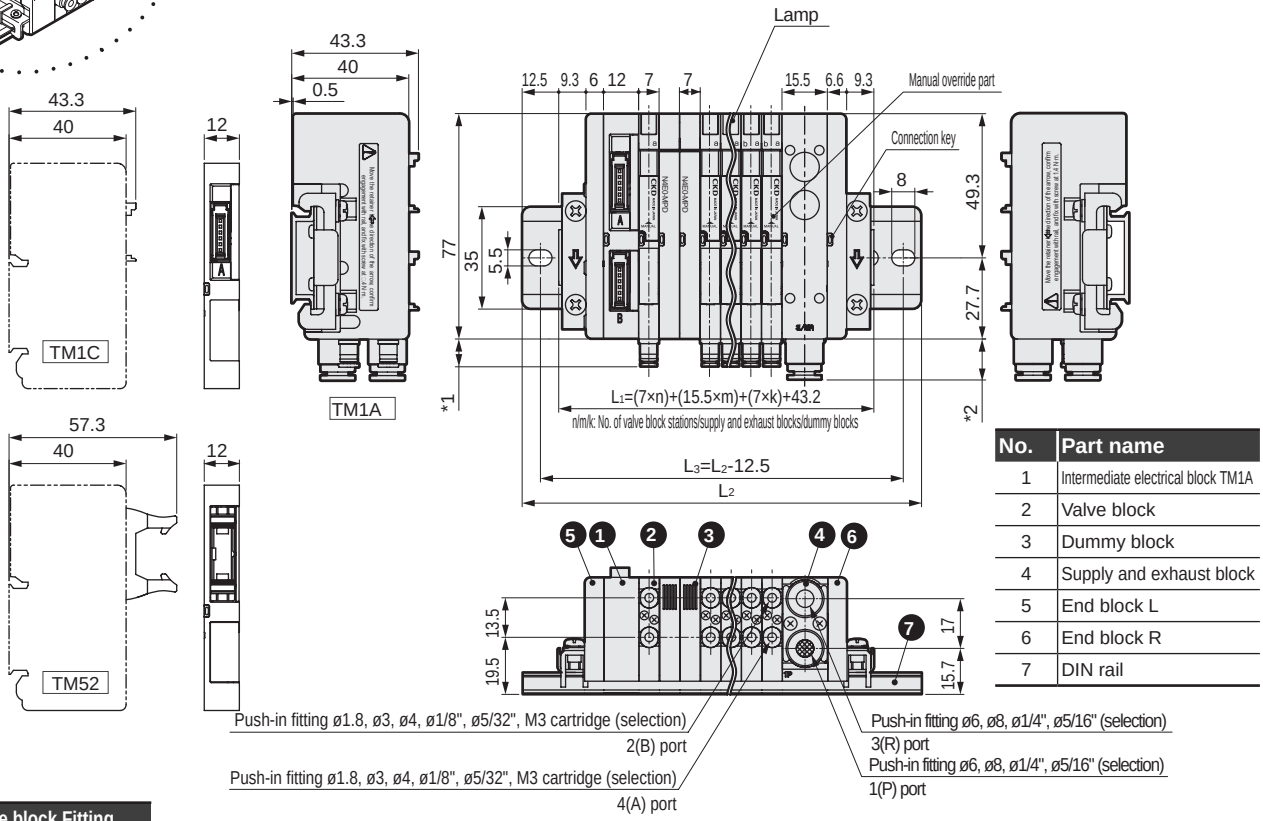
MN$^{3}_{4}$E00*-*-TM1$^{A}_{C}$ *-*-*-P70

● RITS connector, intermediate wiring (TM1$^{A}_{C}$)

MN$^{3}_{4}$E00*-*-TM52*-*-*-P70

● 10 pin flat cable connector, intermediate wiring (TM52)





No.	Part name
1	Intermediate electrical block TM1A
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block L
6	End block R
7	DIN rail

(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

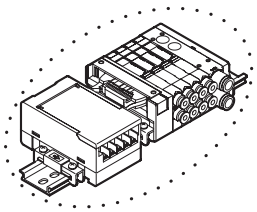
(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

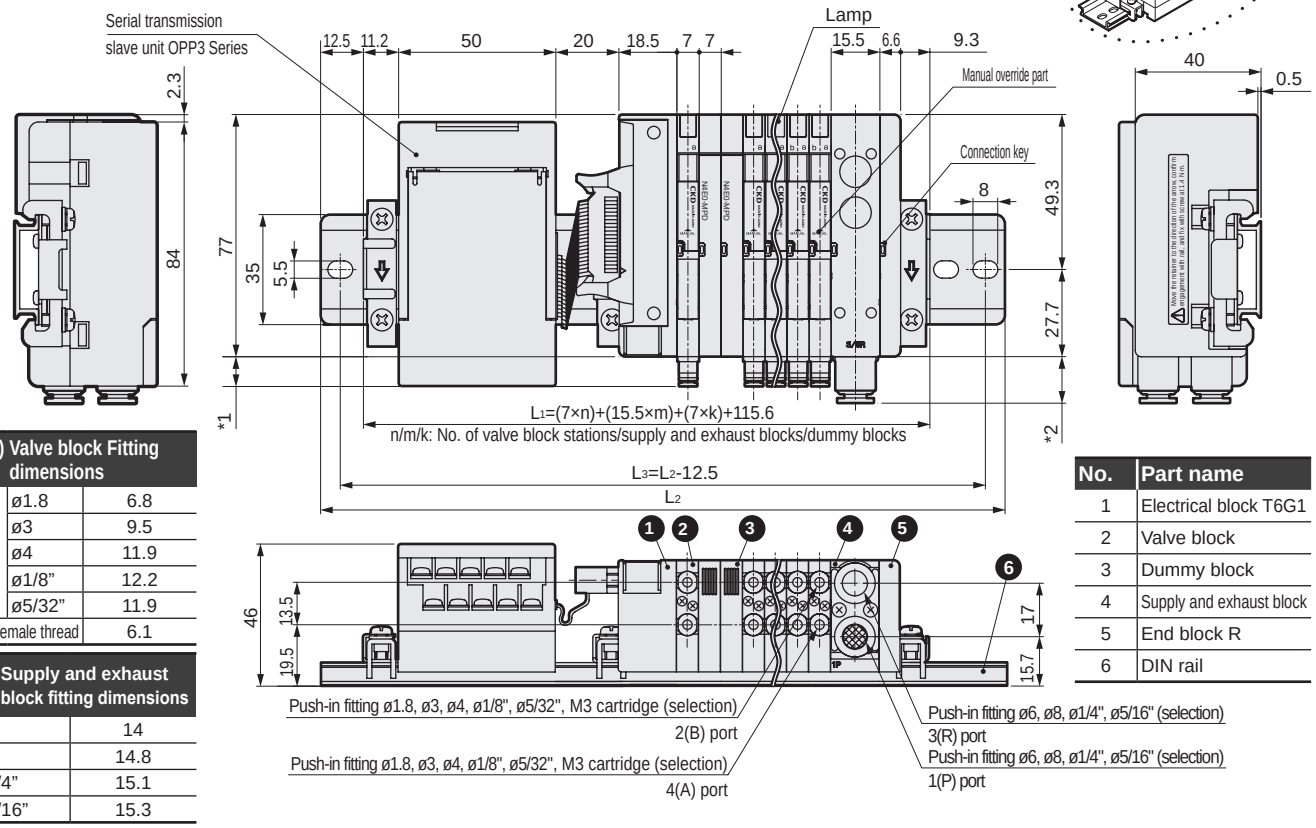
Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

Dimensions

MN$\frac{3}{4}$E00*-*-T6G1-*-*-P70

● Serial transmission (T6G1)





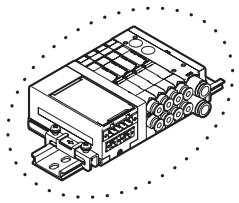
(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

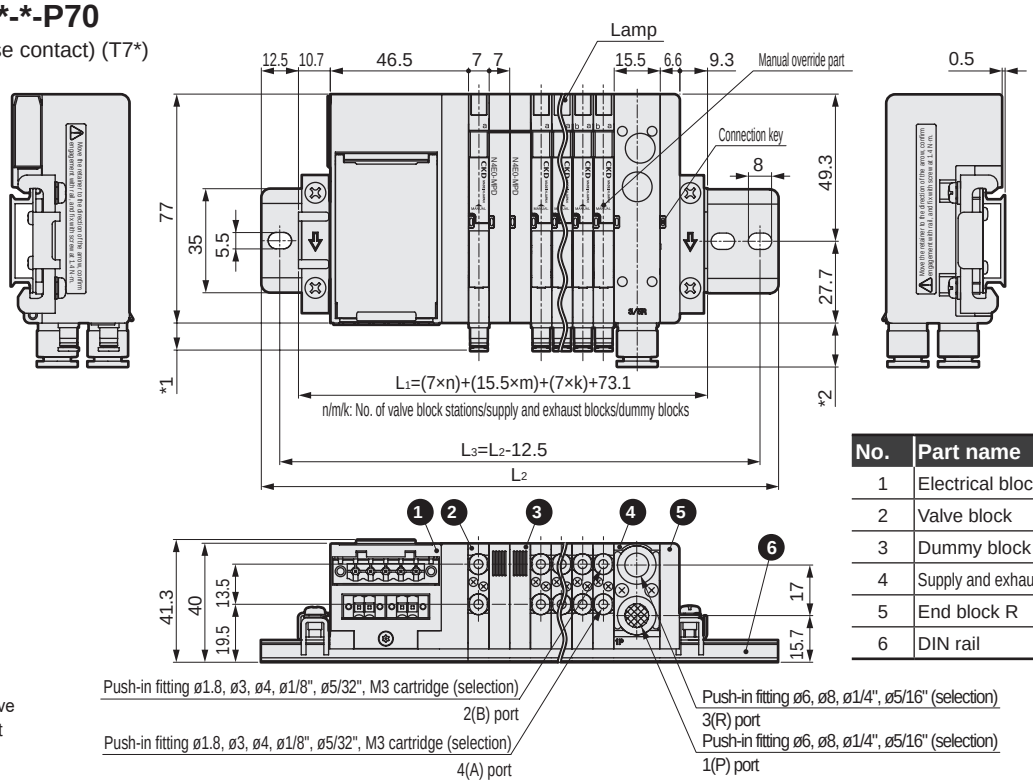
*2 Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

No.	Part name
1	Electrical block T6G1
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

MN$\frac{3}{4}$E00*-*-T7**-*-*-P70

● Serial transmission (close contact) (T7*)





(*1) Valve block Fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

No.	Part name
1	Electrical block T7*
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

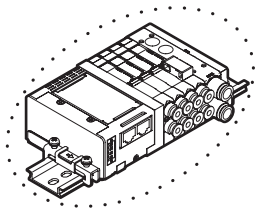
* For dimensions of the radial push-in fitting (Facing up) for valve block and for supply and exhaust block, refer to page 359.

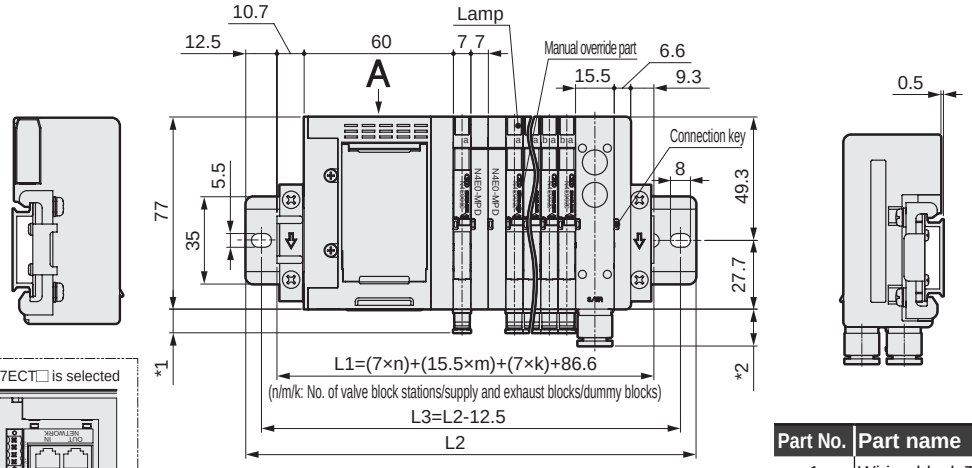
Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

Dimensions

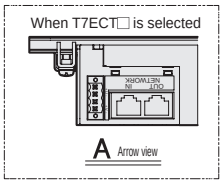
MN$\frac{3}{4}$E00*-*- T7**-*-*P70

● Serial transmission (T7EC□□)

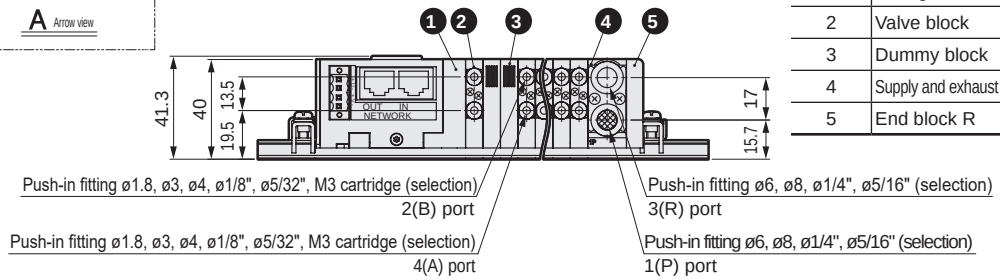




(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 Female thread		6.1



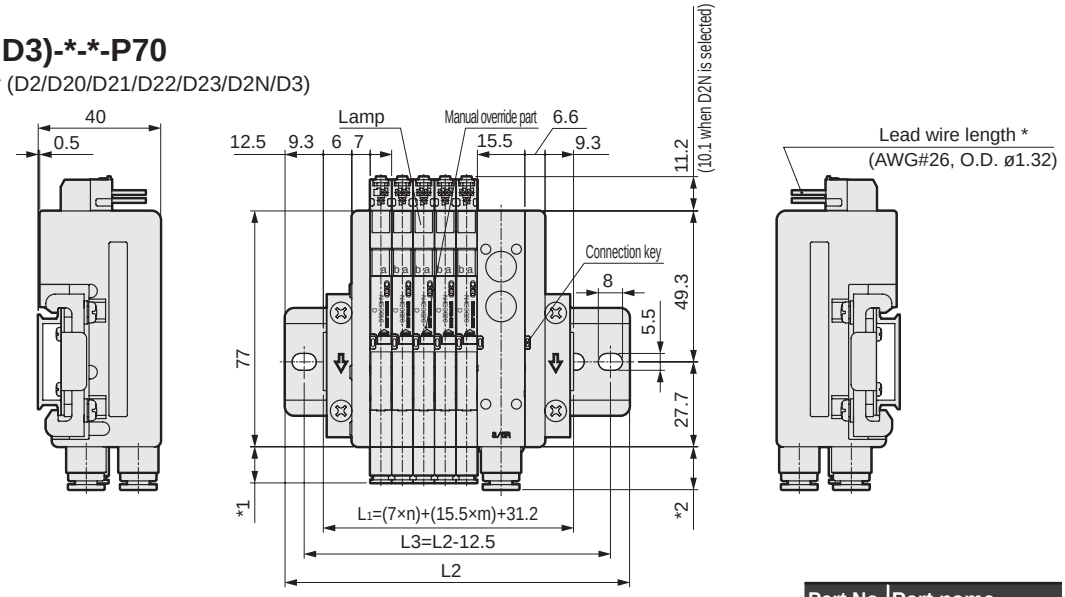
(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3



Part No.	Part name
1	Wiring block T7*
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R

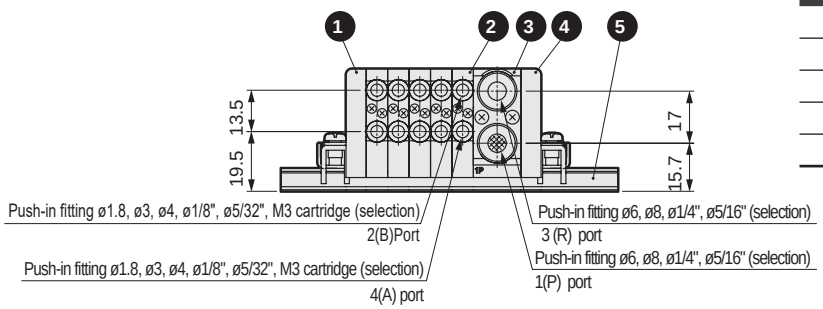
MN$\frac{3}{4}$E00*-*-(D2 to D3)-*-*-P70

● Individual wiring connector (D2/D20/D21/D22/D23/D2N/D3)



(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	6.8
	ø3	9.5
	ø4	11.9
	ø1/8"	12.2
	ø5/32"	11.9
M3 female thread		6.1

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3



Part No.	Part name
1	End block L
2	Valve block
3	Supply and exhaust block
4	End block R
5	DIN rail

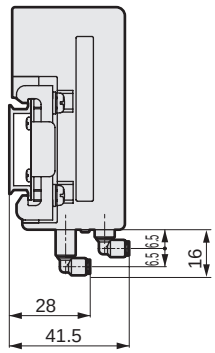
Manifold length L1 mm	63.7 or less	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	75	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

Dimensions

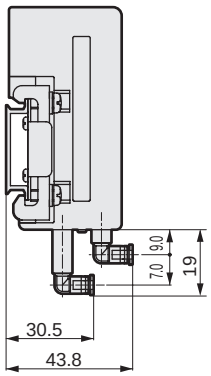
● Piping blocks (common for all)

For air fiber

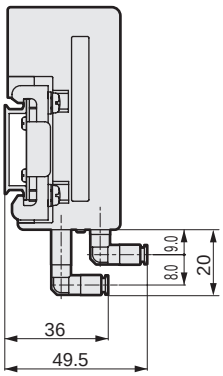
Push-in fitting (Facing up)
● ø1.8 (CL18)



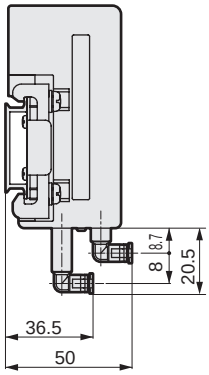
Push-in fitting (Facing up)
● ø3 (CL3)



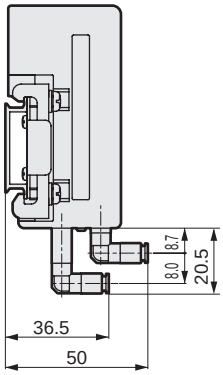
Push-in fitting (Facing up)
● ø4 (CL4)



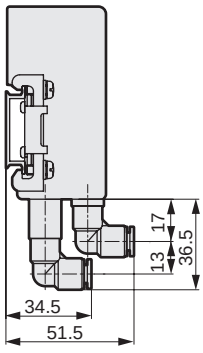
Push-in fitting (Facing up)
● ø1/8" (CL3N)



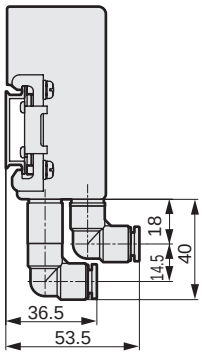
Push-in fitting (Facing up)
● ø5/32"(CL4N)



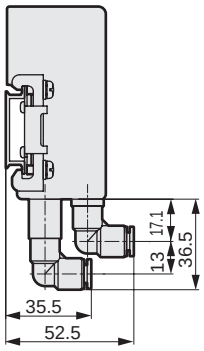
Supply and exhaust block
Radial push-in fitting (upward)
● ø6(CL6)



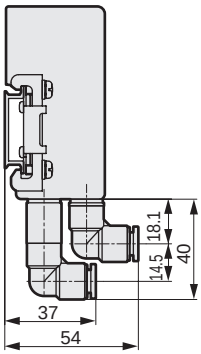
● ø8(CL8)



● ø1/4"(CL6N)

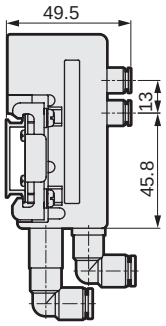


● ø5/16"(CL8N)

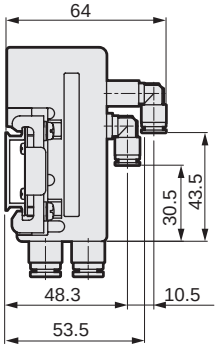


Supply and exhaust block for external pilot

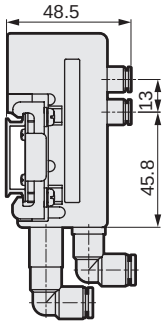
● Upward piping



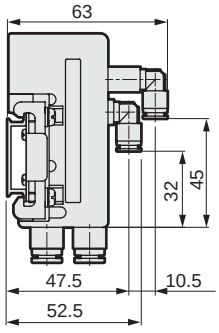
● Lateral piping



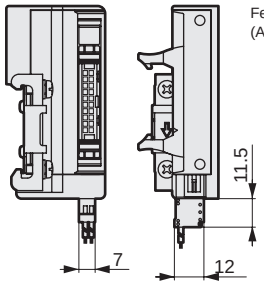
●Upward piping
(inch fitting specifications)



● Lateral piping
(inch fitting specifications)



● Dimensions with T50 power supply connector

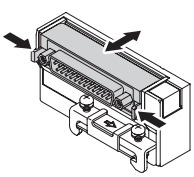


Feed connector
(Attached with product)

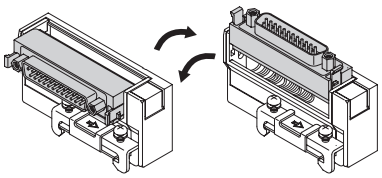
Applicable wire
AWG28-20

● D-sub-connector (T30 (N)/T30 (N)R): How to switch the connector direction

Usage in a horizontal state

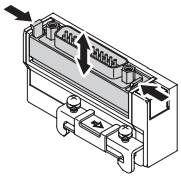


Hold the lever and pull the connector out horizontally. Push in the connector horizontally for storage. (Must be fixed.)

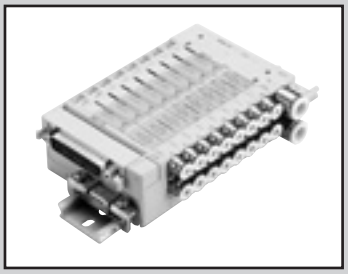


Rotate the connector. Fix the connector in the horizontal or vertical state during use.

Usage in a vertical state



Hold the lever and pull the connector out vertically.Push in the connector horizontally for storage. (Must be fixed.)



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

MN3E0/MN4E0 Series

Structure and material restriction

	Structure	Model No.
P7 Series	Exhaust treatment	– P70

Common specification

Item		Description
Manifold method		Block manifold
Manifold		Common supply/exhaust, check valve integrated *1
Working fluid		Compressed air
Valve and operation		Pilot operated soft spool valve
Max. working pressure	MPa	0.7
Min. working pressure	MPa	0.2
Proof pressure	MPa	1.05
Ambient temperature	°C	5 to 55
Fluid temperature	°C	5 to 55
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		Containing corrosive gas is not permissible
Manual operating device		Locking/non-locking common or non-locking

*1: Check valve blocks back pressure from adjacent pneumatic devices, etc., However, the structure does not permit continuous pressure holding, so do not use for purposes other than blocking back pressure.

Electrical specifications

Item			Description
Rated voltage	V		12, 24
Voltage fluctuation range			±10% (using serial transmission +10%, -5%)
Guaranteed current	A	24 VDC	0.025 (0.013) *2
		12 VDC	0.05 (0.025) *2
Power consumption	W	24 VDC	0.6 (0.3) *2
		12 VDC	
Thermal class			B
Surge suppressor			Option
Indicator			LED

*2: As this product has no-lubrication specifications, adding oil may cause leakage of the grease initially sealed in, which may prevent the product from operating at its maximum performance.
*3: Values shown in ( ) are for low exoergic/energy circuit type.As well, when using the valve block with individual power supply function (AUX), type with low exoergic/energy circuit, energizing is limited to the plus common.

Individual specifications

Item \ Port		3-port valve	4-port valve	Dual 3-port valve integrated *1
Port size	A/B port	ø1.8, ø4, ø6 push-in fitting, M5, fiber tube		
	P/R port	ø6, ø8 push-in fitting		
	External pilot port	ø6 push-in fitting		-

*1: The dual 3-port valves integrated type uses the main pressure to operate the valving element, and therefore cannot be used with the 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.

Max. number of stations energized by manifold

● T3□/T5□/TM□/T6G1

Item		MN3E0/MN4E0								
		T30(N)	T50	T51	T52	T53	TM1A	TM1C	TM52	T6G1
Max. station No.	Standard wiring	24 stations	16 stations	18 stations	8 stations	24 stations	10 stations	5 stations	8 stations	16 stations
	Double wiring	12 stations	8 stations	9 stations	4 stations	12 stations	5 stations	2 stations	4 stations	8 stations
Max. number of solenoids		24 points	16 points	18 points	8 points	24 points	10 points	5 points	8 points	16 points

● T7□

Item		MN3E0/MN4E0									
		T7D1	T7D2	T7G1	T7G2	T7N1	T7N2	T7EC□1	T7EC□2	T7EN1	T7EN2
Max. station No.	Standard wiring	16 stations	32 stations	16 stations	32 stations	16 stations	32 stations	16 stations	32 stations	16 stations	32 stations
	Double wiring	8 stations	16 stations	8 stations	16 stations	8 stations	16 stations	8 stations	16 stations	8 stations	16 stations
Max. number of solenoids		16 points	32 points	16 points	32 points	16 points	32 points	16 points	32 points	16 points	32 points

Individual specifications/Characteristics

Item \ Port			3-port valve	4-port valve	Dual 3-port valve integrated *2
Response time *1 ms	2-position	Single	20 or less	20 or less	12 or less
		Double	12 or less	12 or less	-
	3-position		-	20 or less	-

*1: The response times are values with supply pressure of 0.5 MPa, without lubrication.

Flow characteristics

			C [dm³/(s·bar)]	b
3-port valve	2-position		0.54	0.12
4-port valve	2-position		0.54	0.12
	3-position	All ports closed	0.50	0.08
		A/B/R connection	0.54	0.12
		P/A/B connection	0.50	0.11
Dual 3-port valve integrated	2-position		0.50	0.16

*1: Effective cross-sectional area S and sonic conductance C are converted as S ≈ 5.0 x C.
*2: Value of ø4 push-in fitting

Slave unit specifications

Item		T6G1 (*1)	T7D1 (*2) T7D2	T7G1 (*1) T7G2	T7N1 T7N2	T7EC□1 T7EC□2	T7EN1 T7EN2
Power supply voltage	Unit side	24 VDC ±10%	24 VDC ±10%				
	Valve side	24 VDC +10% -5%	24 VDC +10% -5%				
	Communication side	-	11 to 25 VDC	-			
Current consumption	Unit side	100 mA or less (when all points output ON)	T7D1: 60 mA or less T7D2: 85 mA or less (when all points output ON)	T7G1: 65 mA or less T7G2: 90 mA or less (when all points output ON)	T7N1: 40 mA or less T7N2: 50 mA or less (when all points output ON)	120 mA or less (When all points output ON)	120 mA or less (When all points output ON)
	Valve side	15 mA or less (when all points are OFF)	15 mA or less (when all points are OFF)				
	Communication side	-	50 mA or less	-			
Output points		16 points	T7D1: 16 points T7D2: 32 points	T7G1: 16 points T7G2: 32 points	T7N1: 16 points T7N2: 32 points	T7EC□1: 16 points T7EC□2: 32 points	T7EN1: 16 points T7EN2: 32 points
Occupied number		1 station	T7D1: 2 bytes T7D2: 4 bytes	T7G1: 1 station T7G2: 1 station	T7N1: 16 output points T7N2: 32 output points	T7EC□1: 1 address T7EC□2: 1 address	T7EN1: 1 address T7EN2: 1 address

*1: CC-Link of Ver.1.10
*2: Contact CKD for information on the EDS file. (EDS file: A text file of parameters for communication with a master unit of another company.)

Weight

Electrical block (g)		D sub-connector T30(N)	Flat cable connector T5*	Intermediate electrical block			Serial transmission		
				TM1A	TM1C	TM52	T6G1	T7*	T7E**
		67	59	32	32	34	205	128	145
Supply and exhaust block (g)		Q/QZ	QK	QKZ		QX		QKX	
	Fitting Lateral	64	69	79		56		61	
	Fitting facing up	90	94	98		62		66	
Valve block (g)		2-position single	2-position double	3-position		Dual 3-port valve integrated			
	Fitting Lateral	47.5	52	53.5		52			
	Fitting facing up	54.5	59	60.5		59			
Dummy block (g)		MPS/MPD							
		20							
End block (g)		ER/EL							
		40							
DIN rail (g)		-							
		0.19 g/mm							

How to order manifold D sub/flat cable connector

* Refer to page 366 for Serial transmission.

● Discrete valve block

N 3 E0 66 0 - C4 - M D2 F —— 3 - P70

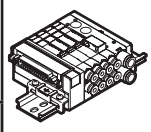
● Block manifold

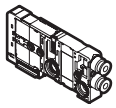
M N 4 E0 1 0 - C4 - M T53 D2 W F - 5 - 3 - P70

- DIN rail mount
- A Valve
- B Solenoid position
- C Port size
- D Manual operating device
- E Wiring method
- Individual wiring
- F Terminal and connector pin wiring
- G Option
- H Station No.
- I Voltage
- Clean room specifications

* Always indicate "Manifold specifications" (page 410).

Code	Content		Type: Block manifold	Type: Discrete valve block
A Valve				
3	3-port valve or two 3-port valves integrated		●	●
4	4-port valve or 3, 4-port valve mix		●	●
B Solenoid position (*8)				
1	3-port valve	Single NC self reset (differential pressure spring return)	●	●
11	3-port valve	Single NO self reset (differential pressure spring return)	●	●
2	3-port valve	Double NC self holding	●	●
21	3-port valve	Double NO self holding	●	●
66	Dual 3-port valve integrated (*1)	A side valve: NC self reset (differential pressure return) / B side valve: NC self reset (differential pressure spring return)	●	●
66S	Dual 3-port valve integrated (*1)	A side valve: NC self reset (differential pressure spring return) / B side valve: NC self reset (differential pressure spring return)	●	●
67	Dual 3-port valve integrated (*1)	A side valve: NC self reset (differential pressure return) / B side valve: NO self reset (differential pressure spring return)	●	●
67S	Dual 3-port valve integrated (*1)	A side valve: NC self reset (differential pressure spring return) / B side valve: NO self reset (differential pressure spring return)	●	●
76	Dual 3-port valve integrated (*1)	A side valve: NO self reset (differential pressure return) / B side valve: NC self reset (differential pressure spring return)	●	●
76S	Dual 3-port valve integrated (*1)	A side valve: NO self reset (differential pressure spring return) / B side valve: NC self reset (differential pressure spring return)	●	●
77	Dual 3-port valve integrated (*1)	A side valve: NO self reset (differential pressure return) / B side valve: NO self reset (differential pressure spring return)	●	●
77S	Dual 3-port valve integrated (*1)	A side valve: NO self reset (differential pressure spring return) / B side valve: NO self reset (differential pressure spring return)	●	●
1	4-port valve	2-position single self reset (differential pressure spring return)	●	●
2	4-port valve	2-position double self hold	●	●
3	4-port valve	3-position all ports closed	●	●
4	4-port valve	3-position A/B/R connection	●	●
5	4-port valve	3-position P/A/B connection	●	●
8	Mixed manifold		●	
C Port size				
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)		●	●
C18	ø1.8 push-in fitting, Lateral (applicable tube UP-9402-**)		●	●
CL18	ø1.8 push-in fitting, Facing up (applicable tube UP-9402-**)		●	●
C4	ø4 push-in fitting, Lateral		●	●
CL4	ø4 push-in fitting, Facing up		●	●
C6	ø6 push-in fitting, Lateral		●	●
CL6	ø6 push-in fitting, Facing up		●	●
M5	M5 female thread (with non-rotation)		●	●
CX	Mix push-in fitting (*10)		●	●
C3N	ø1/8” push-in fitting, Lateral		●	●
C4N	ø5/32” push-in fitting, Lateral		●	●
CL3N	ø1/8” push-in fitting, Facing up		●	●
CL4N	ø5/32” push-in fitting, Facing up		●	●
CXN	Mix push-in fitting (*10)		●	●
D Manual operating device				
Blank	Locking/non-locking common (with manual cover)		●	●
M	Manual override for non-locking (with manual cover)		●	●
E Wiring method				
Refer to the following page about wiring method.			●	
F Terminal and connector pin wiring				
Blank	Standard wiring		●	●
W	Double wiring (*2, 3)		●	●
G Option				
Blank	None		●	●
E	Low-heat and energy saving circuit (*4)		●	●
U	Built-in individual power supply function (AUX) (*4, 5)		●	●
A	Ozone proof		●	●
F	Port A/B filter integrated (*6)		●	●
H Station No. (*11)				
1	1 station		●	
to	to			
24	24 stations (*7)			
I Voltage				
3	24 VDC		●	●
4	12 VDC		●	●





- For model No. of the cable with D sub-connector, refer to page 390.

⚠ Precautions for model No. selection

*1: The type with two 3-port valves integrated cannot be used with the external pilot.

***2: For double wiring specifications, refer to the connector pin layout (example) on pages 389 to 396.**
When ordering individual valve blocks, the double wiring designation is limited to the 2-position single solenoid for the 3-port valve and to the 2-position single solenoid for the 4-port valve.

*3: Double wiring is not available for a single unit of individual wiring valve block.

*4: Energizing is limited to the plus common. Also "E" and "U" cannot be selected at the same time.

*5: "U" is not available for individual wiring.

*6: A filter (for preventing entry of foreign matter) is incorporated in the supply/ exhaust block's port P.

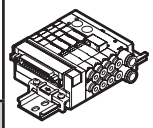
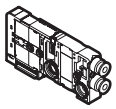
***7: Differs based on the specifications. Refer to page 360.**

***8: For specifications of the self reset, refer to the precautions on page 412.**
To include a dummy block, select mix manifold.

*9: A dummy block is counted in the station No.

*10: A mix of metric fittings, M5 female threads and inch fittings cannot be selected.

(Wiring method list)

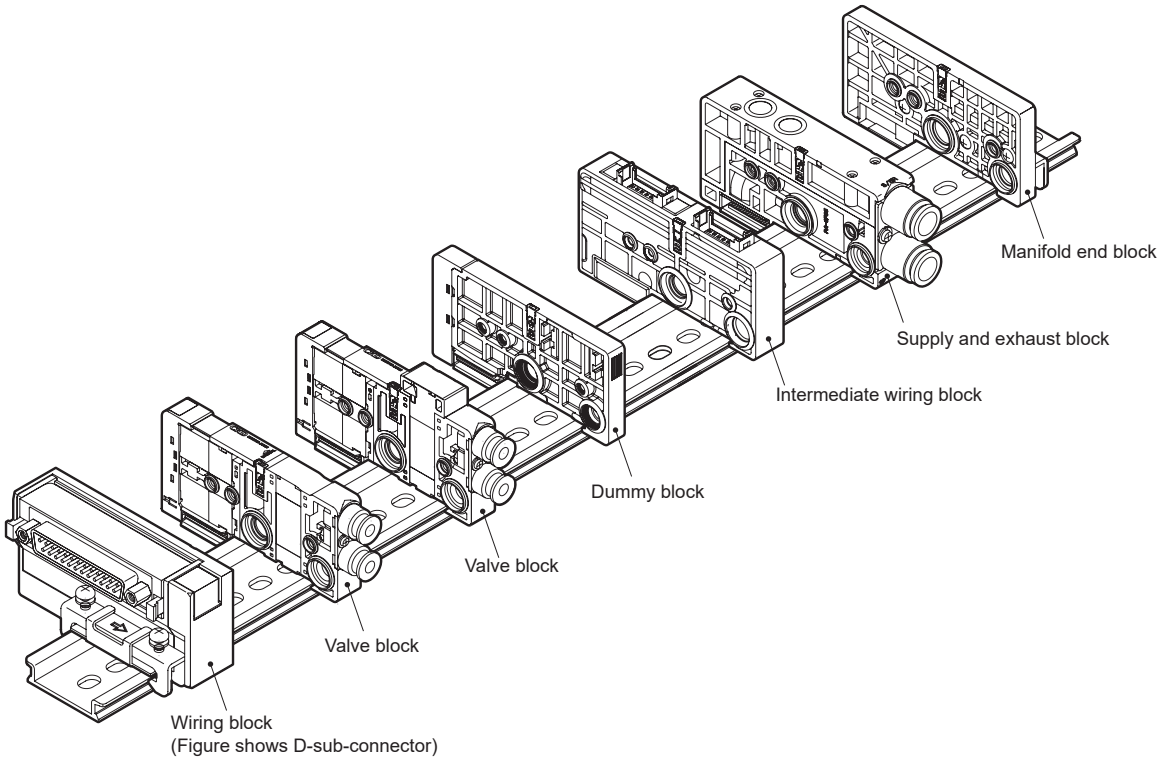
Code	Content		Type: Block manifold	Type: Discrete valve block
				
Ⓔ Wiring method				
T30(N)	25 pin D sub-connector, left		●	
T30(N)R	25 pin D sub-connector, right		●	
T50	20 pin flat cable connector, left (with power supply terminal) (*11)		●	
T50R	20 pin flat cable connector, right (with power supply terminal) (*11)		●	
T51	20 pin flat cable connector, left		●	
T51R	20 pin flat cable connector, right		●	
T52	10 pin flat cable connector, left		●	
T52R	10 pin flat cable connector, right		●	
T53	26 pin flat cable connector, left		●	
T53R	26 pin flat cable connector, right		●	
TM1A	Intermediate wiring block	RITS connector 6P × 2 (*12)	●	
TM1C	Intermediate wiring block	RITS connector 6P (*12)	●	
TM52	Intermediate wiring block	10 pin flat cable connector	●	
TX	Electrical block mix (*13, *14, *15)		●	
Blank	Valve block for reduced wiring			●
D2	Individual wiring	D-connector 300 mm	●	●
D20	Individual wiring	D-connector 500 mm	●	●
D21	Individual wiring	D connector 1000 mm	●	●
D22	Individual wiring	D connector 2000 mm	●	●
D23	Individual wiring	D connector 3000 mm	●	●
D2N	Individual wiring	D connector without socket	●	●
D3	Individual wiring	D connector with socket/terminal	●	●

*11: T50 and T50R with power supply terminal can be combined only with T50R and T50 respectively.
*12:RITS connector 6P (1473562-6) Tyco Electronics Japan G.K.
*13: Request 2 pcs in the manifold specifications sheet.Contact CKD for 3 pcs. or more.
*14: Individual wiring is not available for the TX wiring method.
*15: When selecting TX wiring method, the max. station No. is 24.
* Individual wiring: Individual wiring specification is available with valve blocks designated for it.

Ozone-proof specifications

Can be selected with "How to order" option "A" on pages 362 and 366.

Manifold configuration explanation and parts list



Example of main configuration parts model No.

(Refer to pages 378 to 387 for details)

Part name	Model No. (example)	Part name	Model No. (example)
Wiring block	N4E0-T30-P70	Intermediate wiring block	N4E0-TM1A-P70
Valve block	N4E020-C4-3-P70	Supply and exhaust block	N4E0-Q-8-P70
	N4E030-C4-3-P70	End block	N4E0-ER-P70
Dummy block	N4E0-MPD-P70		

Related parts list

Part name	Model No. (example)	Part name	Model No. (example)
Cartridge push-in fitting and related parts	N4E0-JOINT-C18-P70	Cartridge push-in fitting and related parts	N4E0-JOINT-CF-P70
	N4E0-JOINT-C4-P70		N4E0-JOINT-CPG-P70
	N4E0-JOINT-C6-P70		
	N4E0-JOINT-CL18-P70		
	N4E0-JOINT-CL4-P70		
	N4E0-JOINT-CL6-P70		
	N4E0-JOINT-C3N-P70		
	N4E0-JOINT-C4N-P70		
	N4E0-JOINT-CL3N-P70		
	N4E0-JOINT-CL4N-P70		

MEMO

How to order manifold Serial transmission

* Refer to page 362 for details on D sub-connector/flat cable connector.

● Discrete valve block

N 3 E0 66 0 - C4 - M D2 F — 3 - P70

● Block manifold

M N 4 E0 1 0 - C4 - M T6G1 D2 W F - 5 - 3 - P70

- DIN rail mount
- A Valve
- B Solenoid position
- C Port size
- D Manual operating device
- E Wiring method (serial transmission)
- F Terminal and connector pin wiring
- G Option
- H Station No.
- I Voltage
- Clean room specifications

* Always indicate "Manifold specifications" (page 410).

Code	Content	Type: Block manifold	Type: Discrete valve block
A Valve			
3	3-port valve or two 3-port valves integrated	●	●
4	4-port valve or 3, 4-port valve mix	●	●
B Solenoid position (*8)			
1	3-port valve: Single NC self reset (differential pressure spring return)	●	●
11	3-port valve: Single NO self reset (differential pressure spring return)	●	●
2	3-port valve: Double NC self holding	●	●
21	3-port valve: Double NO self holding	●	●
66	Dual 3-port valve integrated (*1): A side valve: NC self reset (differential pressure return)	●	●
66S	Dual 3-port valve integrated (*1): B side valve: NC self reset (differential pressure spring return)	●	●
67	Dual 3-port valve integrated (*1): A side valve: NC self reset (differential pressure return)	●	●
67S	Dual 3-port valve integrated (*1): B side valve: NO self reset (differential pressure spring return)	●	●
76	Dual 3-port valve integrated (*1): A side valve: NO self reset (differential pressure return)	●	●
76S	Dual 3-port valve integrated (*1): B side valve: NC self reset (differential pressure spring return)	●	●
77	Dual 3-port valve integrated (*1): A side valve: NO self reset (differential pressure return)	●	●
77S	Dual 3-port valve integrated (*1): B side valve: NO self reset (differential pressure spring return)	●	●
1	4-port valve: 2-position single self reset (differential pressure spring return)	●	●
2	4-port valve: 2-position double self hold	●	●
3	4-port valve: 3-position all ports closed	●	●
4	4-port valve: 3-position A/B/R connection	●	●
5	4-port valve: 3-position P/A/B connection	●	●
8	Mixed manifold	●	
C Port size			
CF	ø1.8 barbed fitting (applicable tube UP-9102-**)	●	●
C18	ø1.8 push-in fitting, Lateral (applicable tube UP-9402-**)	●	●
CL18	ø1.8 push-in fitting, Facing up (applicable tube UP-9402-**)	●	●
C4	ø4 push-in fitting, Lateral	●	●
CL4	ø4 push-in fitting, Facing up	●	●
C6	ø6 push-in fitting, Lateral	●	●
CL6	ø6 push-in fitting, Facing up	●	●
M5	M5 female thread (with non-rotation)	●	●
CX	Mix push-in fitting (*10)	●	●
C3N	ø1/8” push-in fitting, Lateral	●	●
C4N	ø5/32” push-in fitting, Lateral	●	●
CL3N	ø1/8” push-in fitting, Facing up	●	●
CL4N	ø5/32” push-in fitting, Facing up	●	●
CXN	Mix push-in fitting (*10)	●	●
D Manual operating device			
Blank	Locking/non-locking common (with manual cover)	●	●
M	Manual override for non-locking (with manual cover)	●	●
E Wiring method			
Refer to the following page about wiring method.		●	
F Terminal and connector pin wiring			
Blank	Standard wiring	●	●
W	Double wiring (*2, *3)	●	●
G Option			
Blank	None	●	●
E	Low-heat and energy saving circuit (*4)	●	●
U	Built-in individual power supply function (AUX) (*4, *5)	●	●
A	Ozone proof	●	●
F	Port A/B filter integrated (*6)	●	●
H Station No.			(*9)
1 to 32	1 station to 32 stations (*7)	●	
I Voltage			
3	24 VDC	●	●

⚠ Precautions for model No. selection

*1: Dual 3-port valve integrated cannot be used with the external pilot.Contact CKD for the other working conditions.

***2: Refer to the connector pin layout (example) given on pages 399 to 403 for the double wiring specifications.** When ordering individual valve blocks, the double wiring designation is limited to the 2-position single solenoid for the 3-port valve and to the 2-position single solenoid for the 4-port valve.

*3: Double wiring is not available for discrete individual wiring valve block.

*4: Energizing is limited to the plus common. Also "E" and "U" cannot be selected at the same time.

*5: "U" is not available for individual wiring.

*6: A filter (for preventing entry of foreign matter) is incorporated in the supply/ exhaust block's P port.

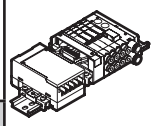
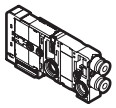
***7: Differs based on the specifications. Refer to page 360.**

***8: For specifications of the self reset, refer to the precautions on page 412.** To include a dummy block, select mix manifold.

*9: A dummy block is counted in the station No.

*10: A mix of metric fittings, M5 female threads and inch fittings cannot be selected.

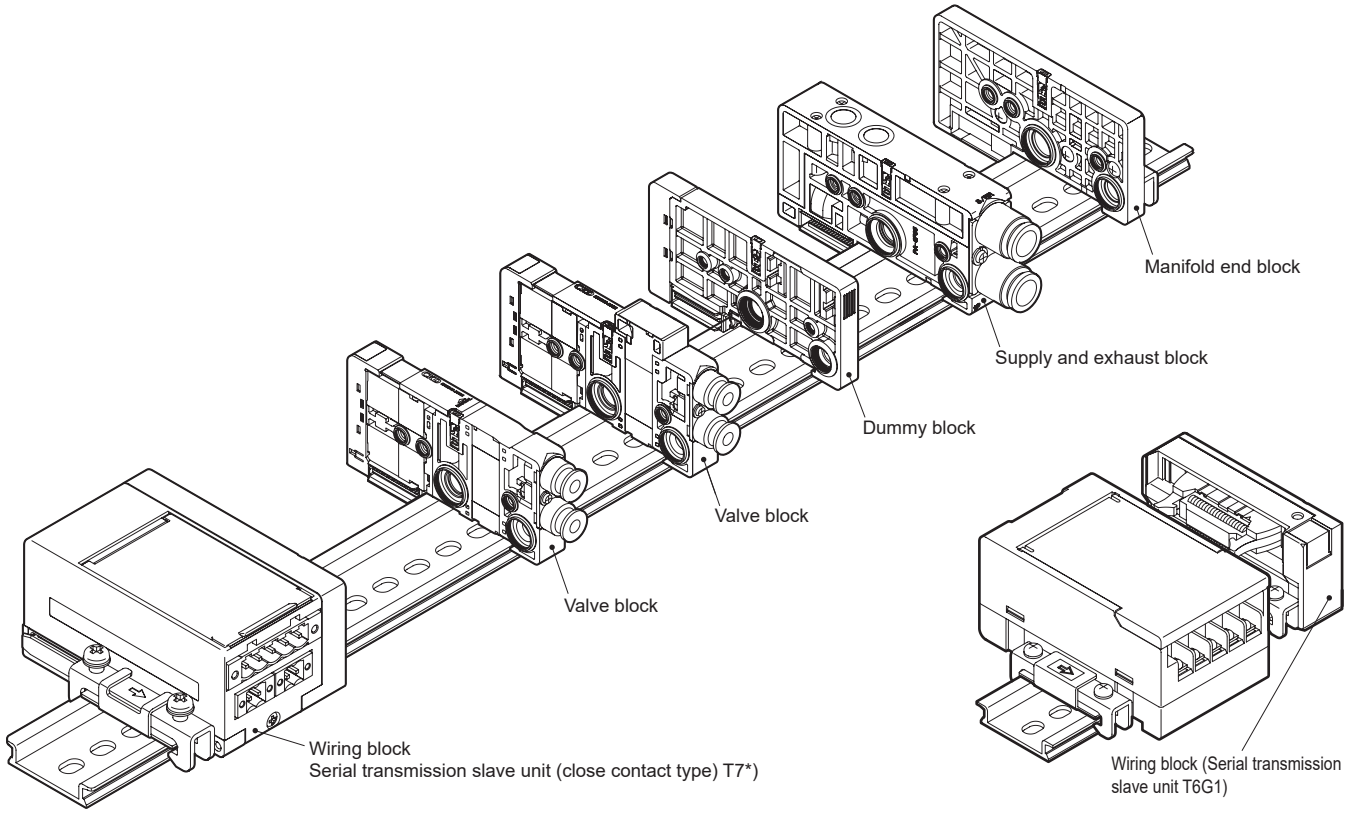
(Wiring method list)

Code	Content		Type: Block manifold	Type: Discrete valve block
				
Ⓔ Wiring method				
T6G1	CC-Link 16 points		●	
T7D1	Close contact, DeviceNet 16 points		●	
T7D2	Close contact, DeviceNet 32 points		●	
T7G1	Close contact, CC-Link 16 points		●	
T7G2	Close contact, CC-Link 32 points		●	
T7N1	Close contact, S-LINK V 16 points		●	
T7N2	Close contact, S-LINK V 32 points (*9)		●	
T7EC1	Close contact EtherCAT 16 points (port side leadout)		●	
T7EC2	Close contact EtherCAT 32 points (port side leadout)		●	
T7ECT1	Close contact EtherCAT 16 points (wiring side leadout)		●	
T7ECT2	Close contact EtherCAT 32 points (wiring side leadout)		●	
T7EN1	Close contact EtherNet/IP 16 points		●	
T7EN2	Close contact EtherNet/IP 32 points		●	
Blank	Valve block for reduced wiring			●
D2	Individual wiring	D connector lead wire length 300 mm	●	●
D20	Individual wiring	D connector lead wire length 500 mm	●	●
D21	Individual wiring	D connector lead wire length 1000 mm	●	●
D22	Individual wiring	D connector lead wire length 2000 mm	●	●
D23	Individual wiring	D connector lead wire length 3000 mm	●	●
D2N	Individual wiring	D connector without lead wire without socket	●	●
D3	Individual wiring	D connector without lead wire with socket/terminal	●	●

Ozone-proof specifications

Can be selected with "How to order" option "A" on pages 362 and 366.

Manifold configuration explanation and parts list



Example of main configuration parts model No.

(Refer to pages 378 to 387 for details)

Part name	Model No. (example)	Part name	Model No. (example)
Wiring block	N4E0-T7G2-P70	Intermediate wiring block	N4E0-TM1A-P70
Valve block	N4E020-C4-3-P70	Supply and exhaust block	N4E0-Q-8-P70
	N4E030-C4-3-P70	End block	N4E0-ER-P70

Related parts list

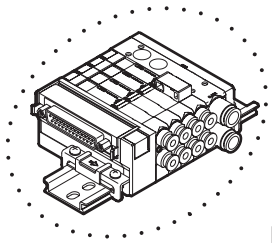
Part name	Model No. (example)	Part name	Model No. (example)
Cartridge push-in fitting and related parts	N4E0-JOINT-C18-P70	Cartridge push-in fitting and related parts	N4E0-JOINT-CF-P70
	N4E0-JOINT-C4-P70		N4E0-JOINT-CPG-P70
	N4E0-JOINT-C6-P70		
	N4E0-JOINT-CL18-P70		
	N4E0-JOINT-CL4-P70		
	N4E0-JOINT-CL6-P70		
	N4E0-JOINT-C3N-P70		
	N4E0-JOINT-C4N-P70		
	N4E0-JOINT-CL3N-P70		
	N4E0-JOINT-CL4N-P70		

MEMO

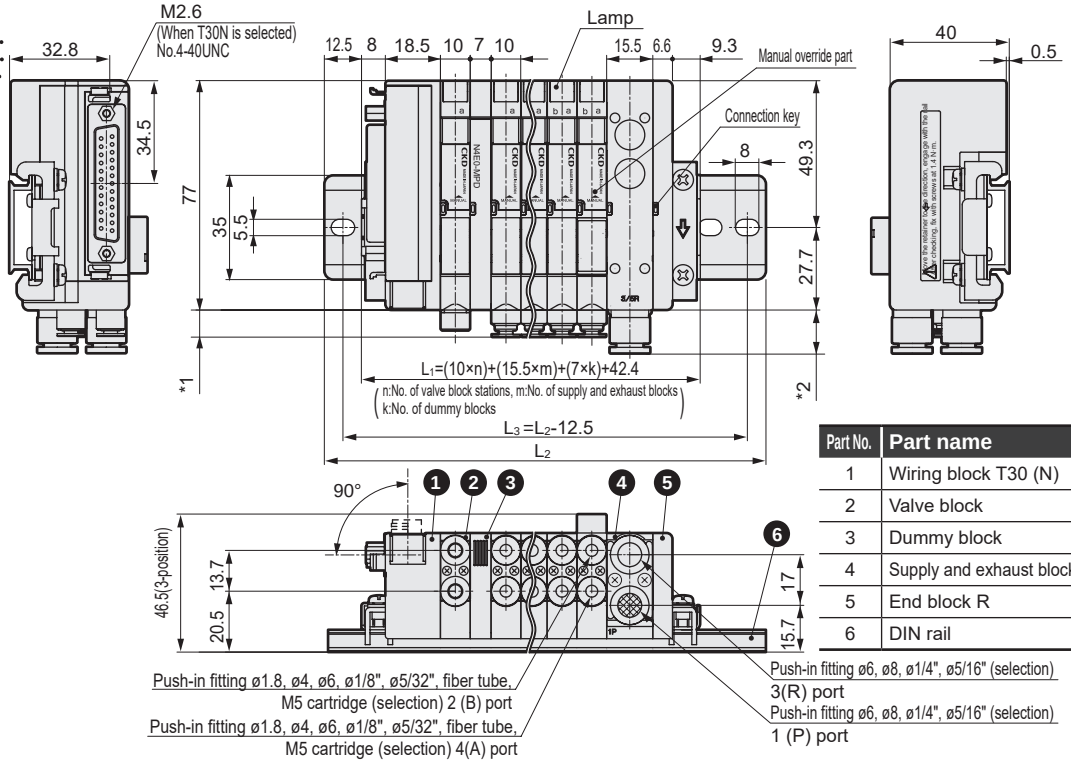
Dimensions

MN$^{3}_{4}$E0*-*-T30(N)*-*-*-P70

● D-sub-connector, left (T30(N))



* D sub-connector can be faced up or down.
* For how to switch the connector direction, refer to page 375.



(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

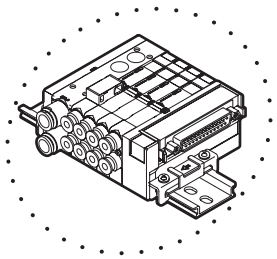
(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

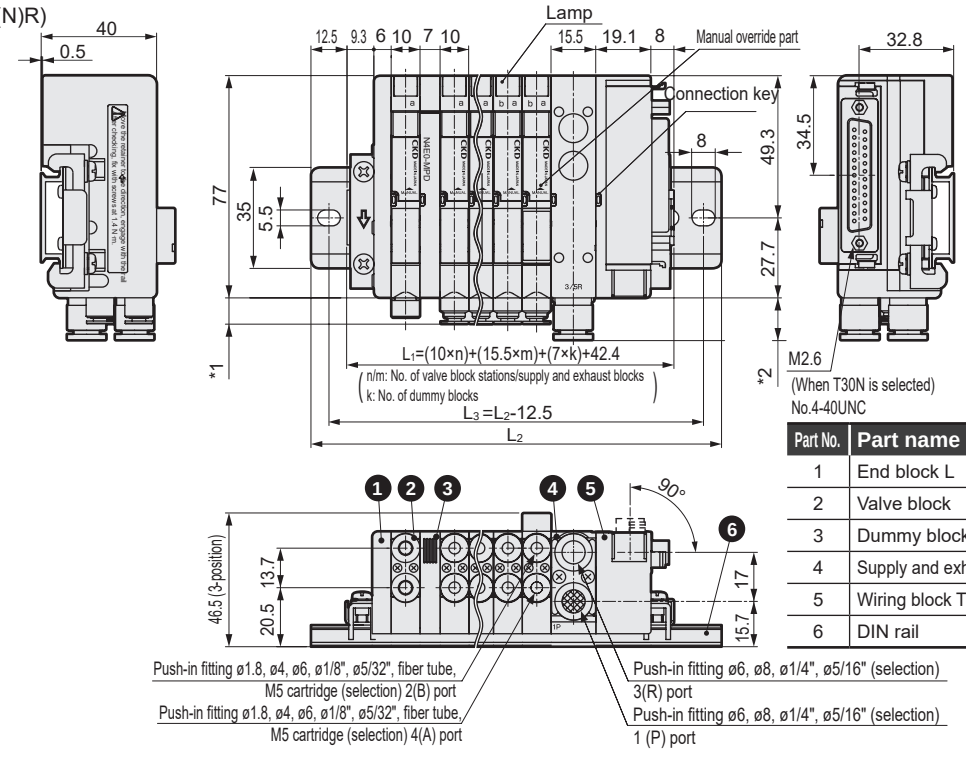
Part No.	Part name
1	Wiring block T30 (N)
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

*** For dimensions of the radial push-in fitting (facing up) for valve block and for supply and exhaust block and the valve block with individual power supply function (AUX), refer to page 375.**

MN$^{3}_{4}$E0*-*-T30(N)R*-*-*-P70

● D-sub-connector, right (T30(N)R)





(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

Part No.	Part name
1	End block L
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	Wiring block T30(N)R
6	DIN rail

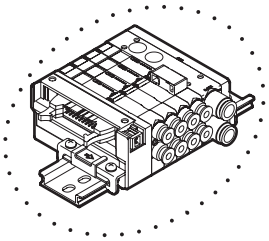
Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

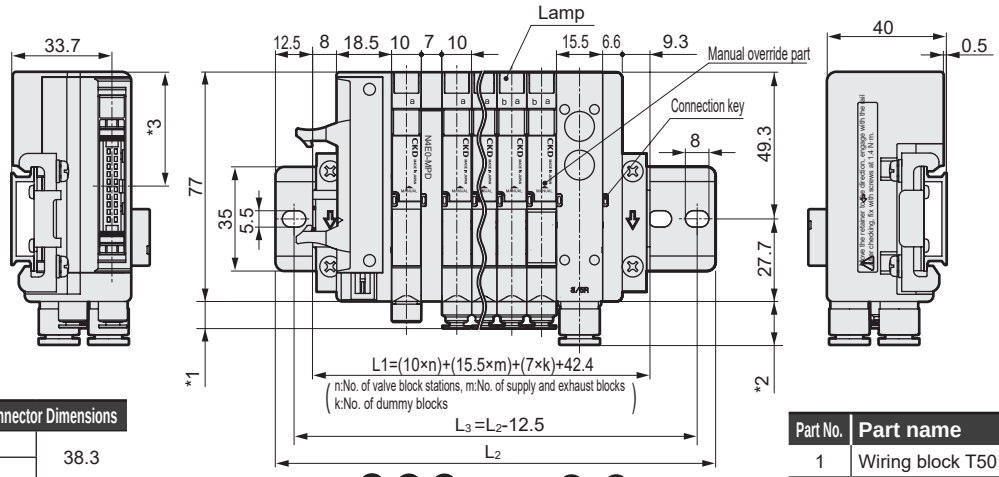
Dimensions

MN$^{3}_{4}$E0*-*-T50*-*-*-P70

● Flat cable connector, left (T50)

***T51, T52, and T53 are also available. Dimensions is the same as T50. For dimensions of the connector*3 Refer to the connector Dimensions.**

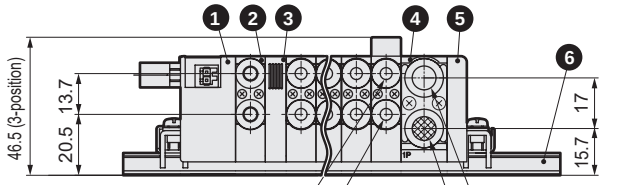




(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

*3 Connector Dimensions	
T50	38.3
T51	
T52	32.0
T53	34.5



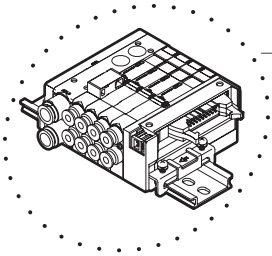
Part No.	Part name
1	Wiring block T50
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

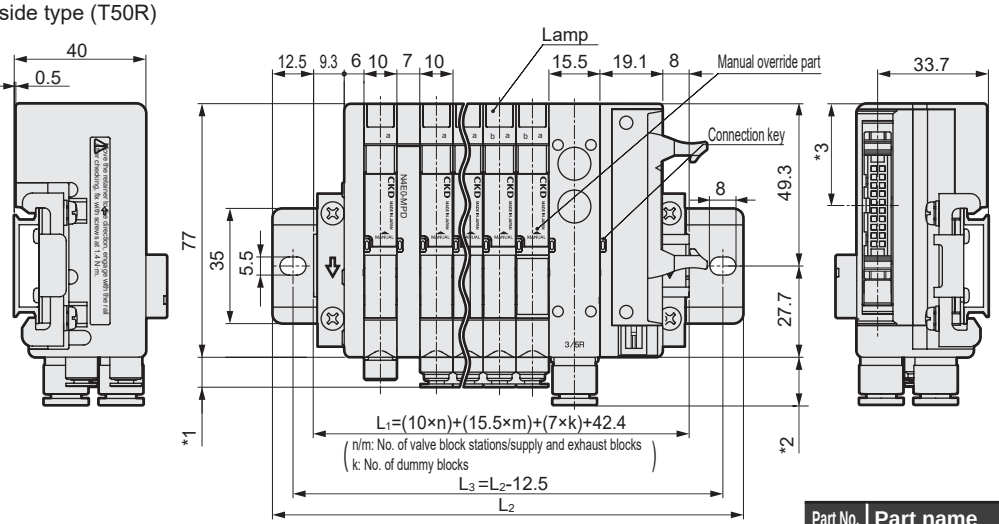
*** For dimensions of the radial push-in fitting (facing up) for valve block and for fiber tube and supply and exhaust block, refer to page 375.**

*** A power feed connector can be used with T50 to supply power to the PLC output unit. Refer to page 375 for how to connect the connector and refer to the wiring precautions on page 391 for how to wire.**

MN$^{3}_{4}$E0*-*-T50R*-*-*-P70

● Flat cable connector right-side type (T50R)

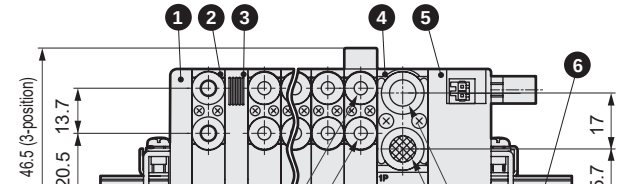




(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

(*3) Connector Dimensions	
T50R	30.7
T51R	
T52R	37.1
T53R	34.5



Part No.	Part name
1	End block L
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	Wiring block T50R
6	DIN rail

Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

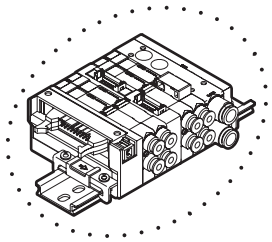
Dimensions

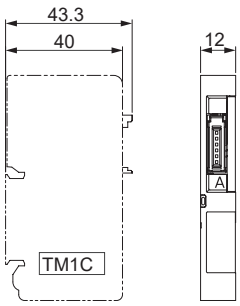
MN$^{3}_{4}$E0*-*-TM1$^{A}_{C}$*-*-*-P70

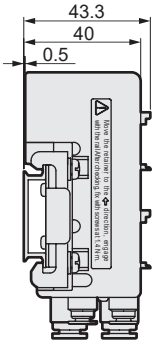
● RITS connector, intermediate wiring (TM)1 $^{A}_{C}$)

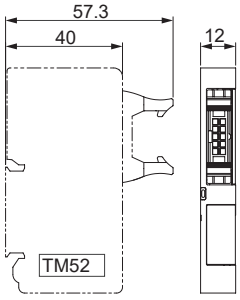
MN$^{3}_{4}$E0*-*-TM52*-*-*-P70

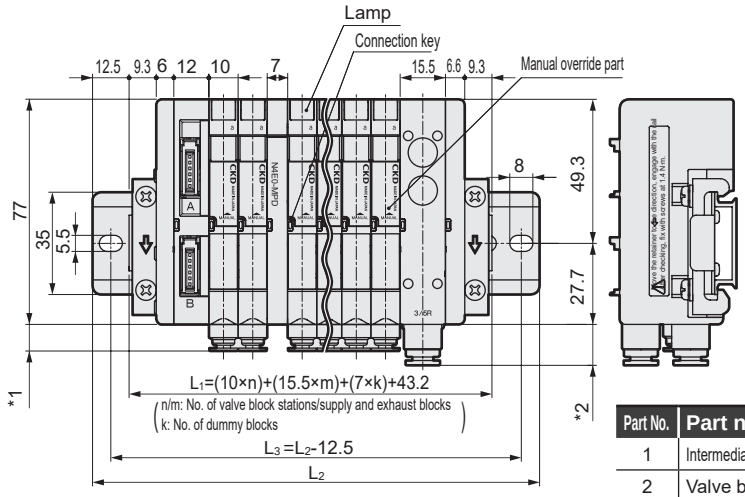
● 10-pin flat cable connector, intermediate wiring (TM52)

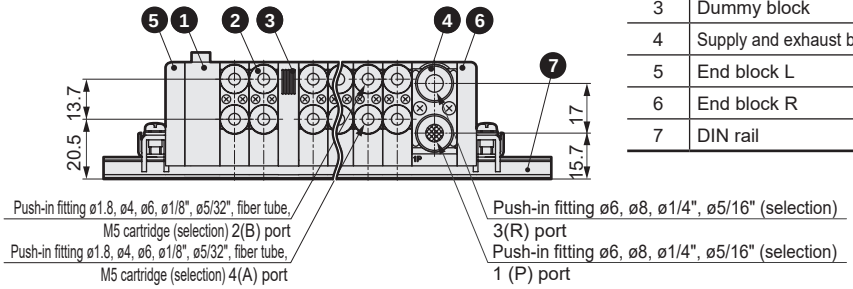












Part No.	Part name
1	Intermediate wiring block TM1A
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block L
6	End block R
7	DIN rail

(*1) Valve block fitting dimensions

Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

(*2) Supply and exhaust block fitting dimensions

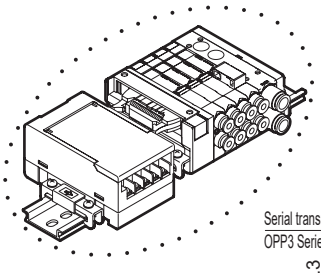
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

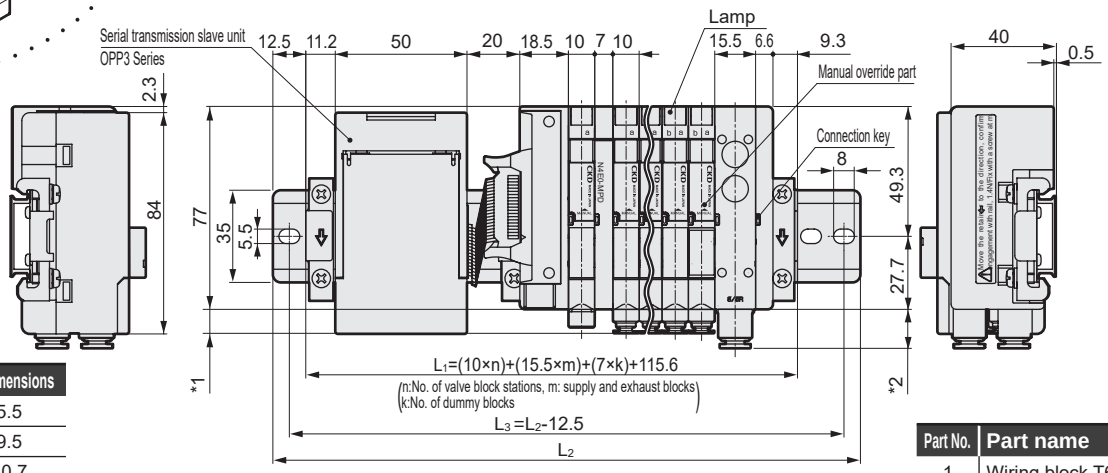
Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

Dimensions

MN$^{3}_{4}$E0*-*-T6G1-*-*-P70

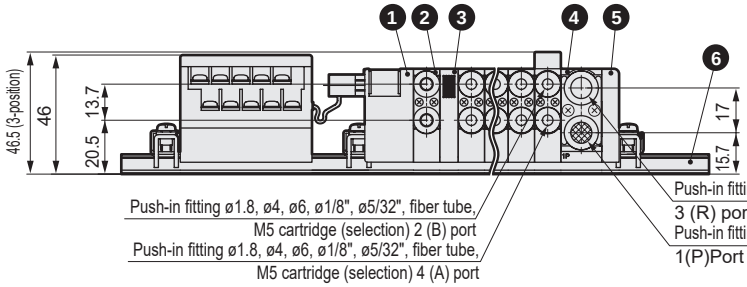
● Serial transmission (T6G1)





(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

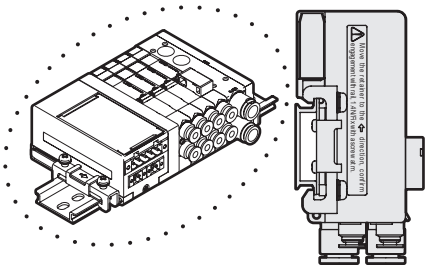
(*2) Supply and exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

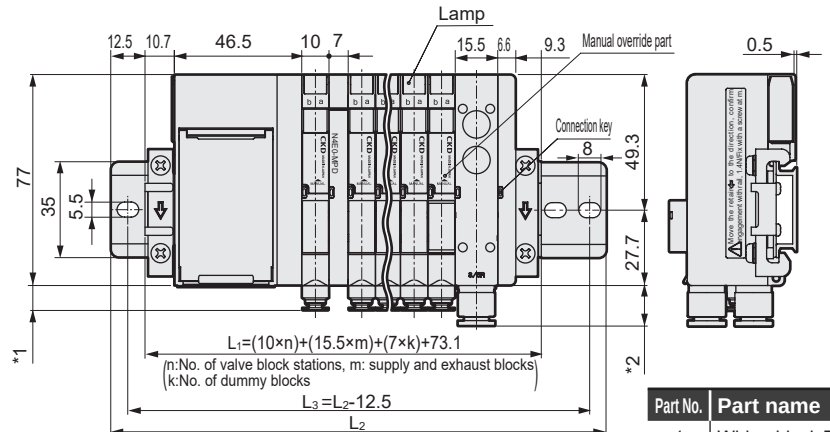


Part No.	Part name
1	Wiring block T6G1
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

MN$^{3}_{4}$E0*-*-T7**-*-*-P70

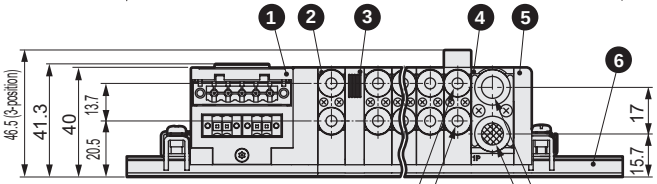
● Serial transmission (close contact) (T7*)





(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

(*2) Supply / exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3



Part No.	Part name
1	Wiring block T7*
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

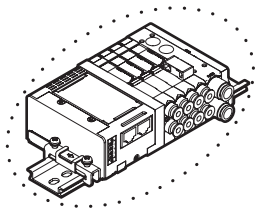
* For dimensions of the radial push-in fitting (facing up) for valve block and for fiber tube and supply and exhaust block, refer to page 375.

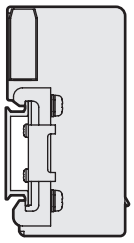
Manifold length L1 mm	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

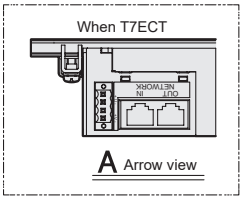
Dimensions

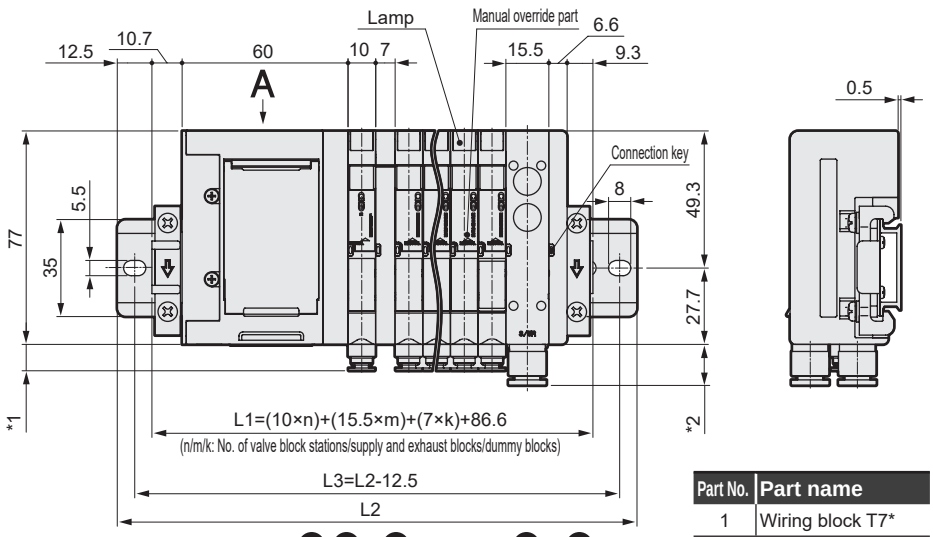
MN 3/4 E00*-*-T7**-*-*-P70

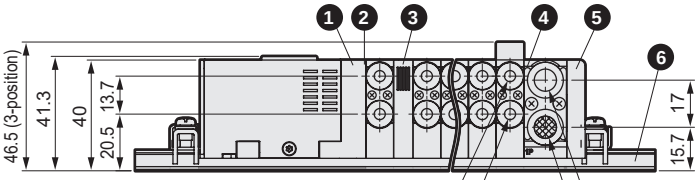
● Serial transmission (T7EC□□)











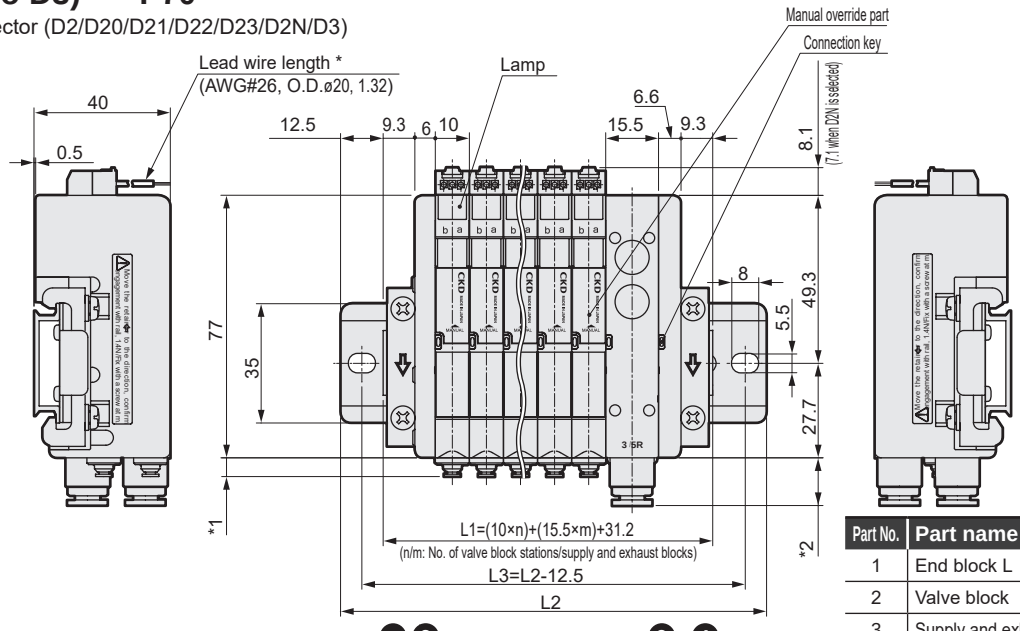
Part No.	Part name
1	Wiring block T7*
2	Valve block
3	Dummy block
4	Supply and exhaust block
5	End block R
6	DIN rail

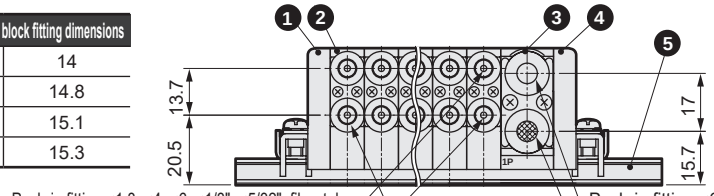
(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

(*2) Supply / exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

MN 3/4 E0*-*- (D2 to D3)-*-*-P70

● Individual wiring connector (D2/D20/D21/D22/D23/D2N/D3)





Part No.	Part name
1	End block L
2	Valve block
3	Supply and exhaust block
4	End block R
5	DIN rail

* Lead wire length	
D2	300mm
D20	500mm
D21	1000 mm
D22	2000 mm
D23	3000 mm

(*1) Valve block fitting dimensions		
Push-in fitting	ø1.8	5.5
	ø4	9.5
	ø6	10.7
	ø1/8"	10.0
	ø5/32"	9.6
Fiber tube		8.5
M5 female thread		6.9

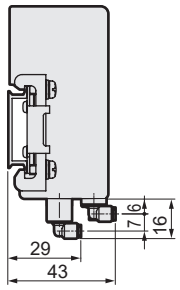
(*2) Supply / exhaust block fitting dimensions	
ø6	14
ø8	14.8
ø1/4"	15.1
ø5/16"	15.3

Manifold length L1 mm	63.7 or less	76.2 or less	88.7 or less	101.2 or less	113.7 or less	126.2 or less	138.7 or less	151.2 or less	163.7 or less	176.2 or less	188.7 or less	201.2 or less	213.7 or less	226.2 or less	238.7 or less	251.2 or less	263.7 or less	276.2 or less	288.7 or less	301.2 or less	313.7 or less	326.2 or less	338.7 or less	351.2 or less
Mounting rail length L2 mm	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5	375
Mounting rail pitch L3 mm	75	87.5	100	112.5	125	137.5	150	162.5	175	187.5	200	212.5	225	237.5	250	262.5	275	287.5	300	312.5	325	337.5	350	362.5

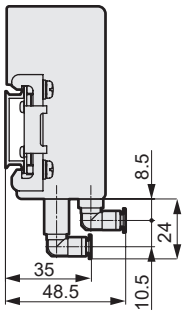
Dimensions

● Piping blocks (common for all types)

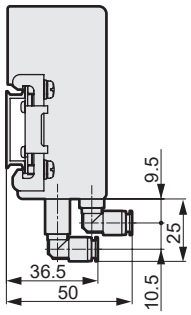
For fiber tube
Push-in fitting (upward)
● ø1.8 (CL18)



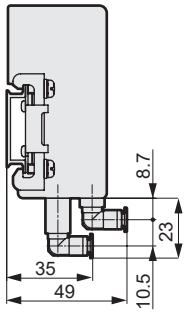
Valve block
Radial push-in fitting (upward)
● ø4 (CL4)



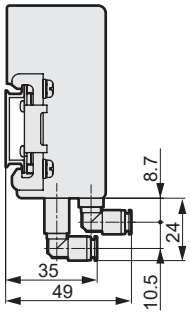
●ø6 (CL6)



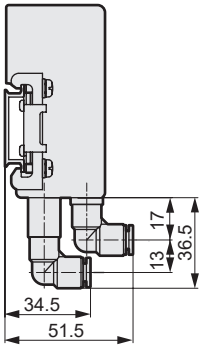
Valve block
Radial push-in fitting (upward)
● ø1/8" (CL3N)



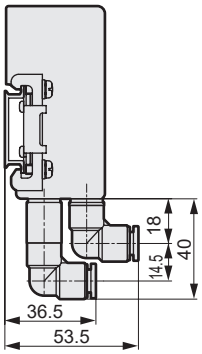
● ø5/32" (CL4N)



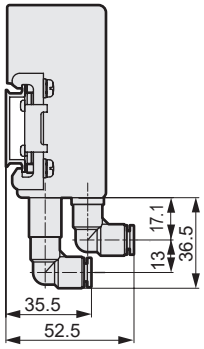
Supply and exhaust block
Radial push-in fitting (upward)
●ø6(CL6)



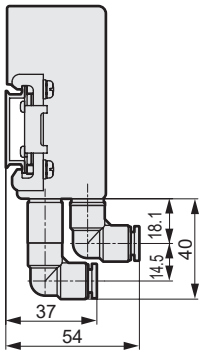
● ø8 (CL8)



Supply and exhaust block
Radial push-in fitting (upward)
● ø1/4" (CL6N)

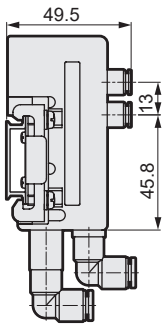


● ø5/16" (CL8N)

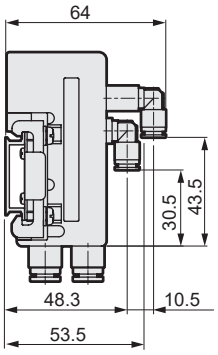


Supply and exhaust block for external pilot

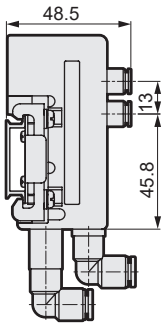
●Upward piping



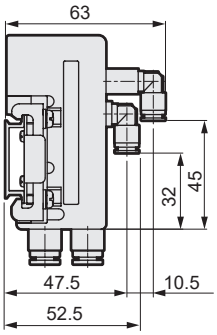
●Lateral piping



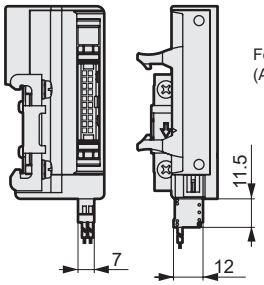
● Upward piping (inch fitting specification)



● Lateral piping (inch fitting specification)



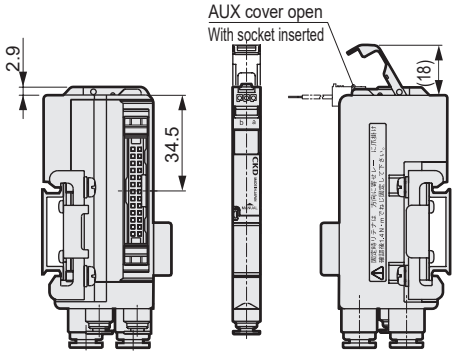
●Dimensions with T50 power supply connector



Feed connector
(Attached with product)

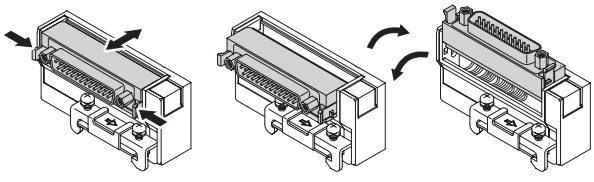
Applicable wire
AWG28-20

●Built-in individual power supply function (AUX)



● D-sub-connector (T30/T30R): Connector section direction switching method

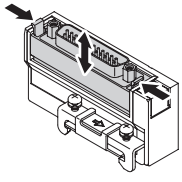
Usage in a horizontal state



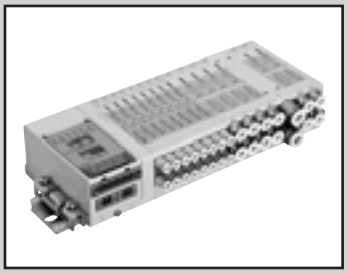
Hold the lever and pull the connector out horizontally. Push in the connector horizontally for storage. (Must be fixed.)

Rotate the connector. Fix the connector in the horizontal or vertical state during use.

Usage in a vertical state



Hold the lever and pull the connector out vertically.Push in the connector horizontally for storage.(Must be fixed.)



MN4E0 / MN4E00 Mix manifold

MN3EX0 / MN4EX0 Series

● Cylinder bore size: ø4 to ø32

RoHS

Structural and material restrictions

	Structure	Model No.
P7 Series	Exhaust port	– P70

Specifications

Common with all series. Refer to pages 344 and 360.

How to order

Block manifolds

MN 4 EX0 - C4 - M T53 E - 5 - 3

- DIN rail Mounting method
- A Valve type
- B Port size
- C Manual override
- D Wiring method
- E Terminal/connector pin array
- F Option
- G Station No.
- H Voltage

Code	Description
A Valve type	
3	3-port valve or two 3-port valves integrated
4	4-port valve or 3, 4-port valve mix
B Port size	
C18	ø1.8 push-in fitting lateral (compatible tube UP-9402)
CL18	ø1.8 push-in fitting upward (compatible tube UP-9402)
C4	ø4 push-in fitting lateral
CL4	ø4 push-in fitting upward
CX	Mix push-in fitting (*7)
C3N	ø1/8" push-in fitting lateral
CL3N	ø1/8" push-in fitting Top
C4N	ø5/32" push-in fitting lateral
CL4N	ø5/32" push-in fitting Top
CXN	Mix push-in fitting (*7)
C Manual override	
Blank	Manual override with manual cover (for locking/non-locking)
M	Manual override with manual cover (for non-locking)
D Wiring method	
Refer to the following page for the wiring method.	
E Terminal/connector pin array	
Blank	Standard wiring
W	Double wiring (*1)
F Option	
Blank	None
E	Low exoergic/energy circuit type (*2)(*3)
A	Ozone-proof product
F	Port A/B filter integrated (*4)
G Station No.	**(*6)**
1	1 stations
to	to
32	32 stations (*5)
H Voltage	
3	24 VDC
4	12 VDC

Precautions for model No. selection

***1: Refer to the connector pin array (example) on pages 389 to 403 for the double wiring specifications. When ordering individual valve blocks, the double wiring designation is limited to the 4-position single solenoid for the 2-port valve and to the 3-position single solenoid for the 2-port valve.**

*2: Energizing is limited to the plus common.

*3: Individual wiring is not available for low exoergic/energy circuit type.

*4: A filter (for preventing entry of foreign matter) is incorporated in the supply and exhaust block's port P.

***5: Differs depending on the specifications. Refer to pages 344 and 360.**

*6: A dummy block is counted in the station No.

*7: You cannot select a mix of metric and inch fittings.

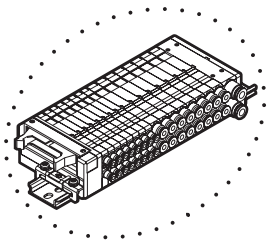
[Wiring method list]

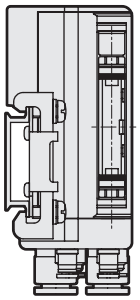
Code		Description
Ⓔ Wiring method		
TM1A		Intermediate wiring block RITS connector 6P x 2
TM1C		Intermediate wiring block RITS connector 6P
TM52		Intermediate wiring block 10-pin flat cable connector, 8 points compatible
T30(N)		25-pin D-sub-connector Left-sided spec.
T30(N)R		25-pin D-sub-connector Right-sided spec.
T50		20-pin flat cable connector Left-sided spec. (with power supply terminal)
T50R		20-pin flat cable connector Right-sided spec. (with power supply terminal)
T51		20-pin flat cable connector Left-sided spec.
T51R		20-pin flat cable connector Right-sided spec.
T52		10-pin flat cable connector Left-sided spec.
T52R		10-pin flat cable connector Right-sided spec.
T53		26-pin flat cable connector Left-sided spec.
T53R		26-pin flat cable connector Right-sided spec.
TX		Wiring block mix (*8))(*9)(*10)
T6G1		CC-Link 16 points
T7D1		Close contact type DeviceNet 16 points
T7D2		Close contact type DeviceNet 32 points
T7G1		Close contact type CC-Link 16 points
T7G2		Close contact type CC-Link 32 points
T7N1		Close contact type S-LINK V 16 points
T7N2		Close contact type S-LINK V 32 points
T7EC1		Close contact EtherCAT 16 points (port side leadout)
T7EC2		Close contact EtherCAT 32 points (port side leadout)
T7ECT1		Close contact EtherCAT 16 points (wiring side leadout)
T7ECT2		Close contact EtherCAT 32 points (wiring side leadout)
T7EN1		Close contact EtherNet/IP 16 points
T7EN2		Close contact EtherNet/IP 32 points
D2	*Individual wiring	D type connector Lead wire length 300 mm
D20		D type connector Lead wire length 500 mm
D21		D type connector Lead wire length 1000 mm
D22		D type connector Lead wire length 2000 mm
D23		D type connector Lead wire length 3000 mm
D2N		D type connector without lead wire without socket
D3		D type connector without lead wire with socket/terminal

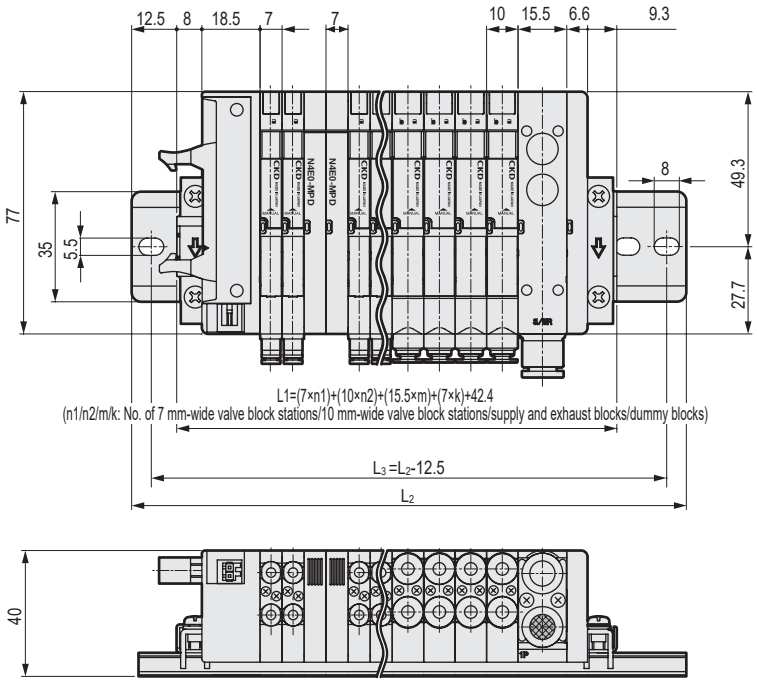
*8: Request 2 pcs in the manifold specifications sheet. Contact CKD for 3 pcs. or more.
*9: Individual wiring is not available for the TX wiring method.
*10: When selecting TX wiring method, the max. station No. is 24.
* Individual wiring: Individual wiring specification is available with valve blocks designated for it.

Mix block dimensions

MN$^{3}_{4}$EXO

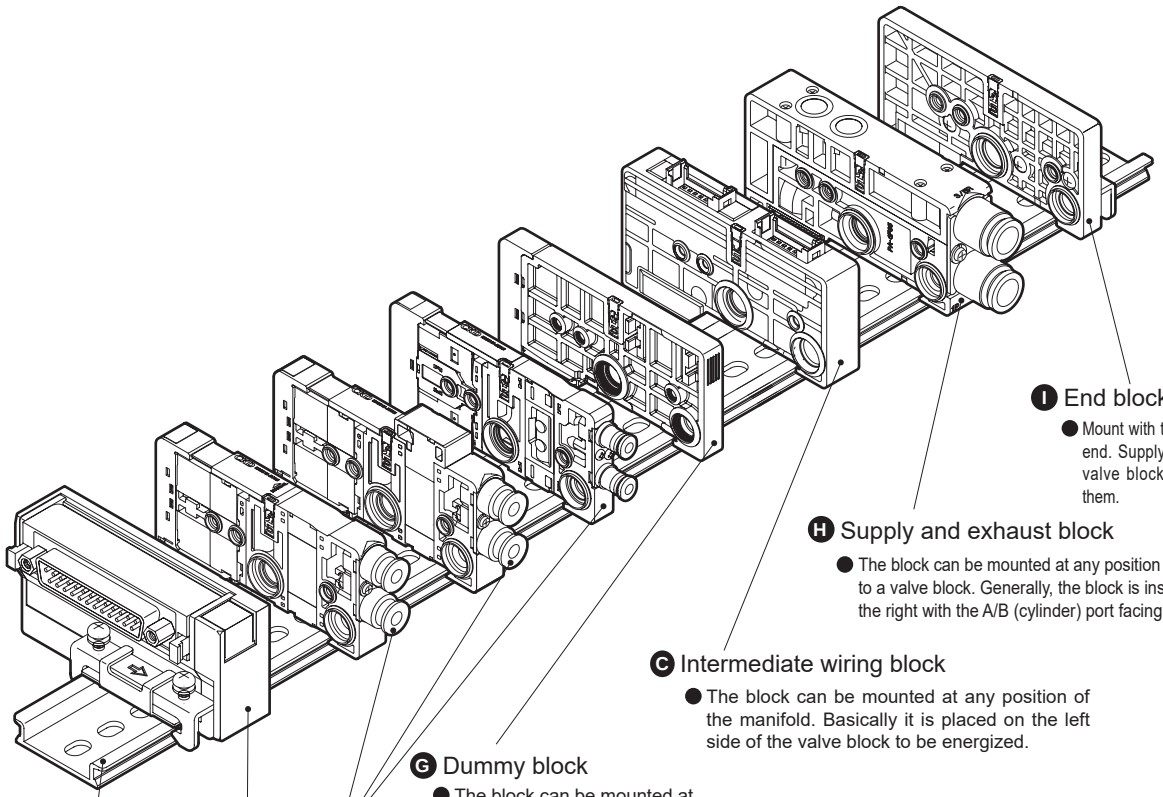






Block manifold: Block configuration

Free assembly enables multiple station expansion and maintenance.



I End block
- Mount with the wiring block on the left end. Supply and exhaust blocks and valve blocks are mounted between them.

H Supply and exhaust block
- The block can be mounted at any position adjacent to a valve block. Generally, the block is installed on the right with the A/B (cylinder) port facing forward.

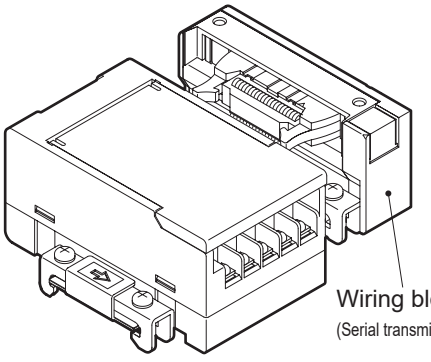
C Intermediate wiring block
- The block can be mounted at any position of the manifold. Basically it is placed on the left side of the valve block to be energized.

G Dummy block
- The block can be mounted at any position of the manifold.

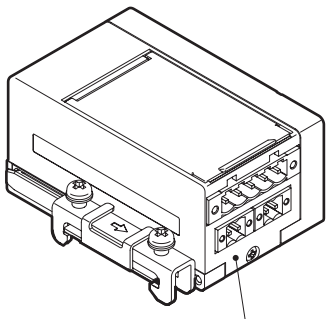
F Valve block (7 mm pitch, 10 mm pitch)
- The selected supply and exhaust block determines internal or external pilot operated. Valve block is the same for both types.

A B D E Wiring block
- Mount with the end block on the right end. Supply and exhaust blocks and valve blocks are mounted between them.

K Mounting rail



Wiring block
(Serial transmission slave unit)

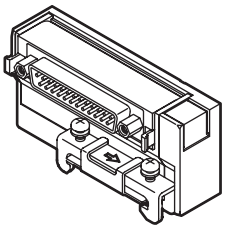


Wiring block
(Serial transmission slave unit (close contact))

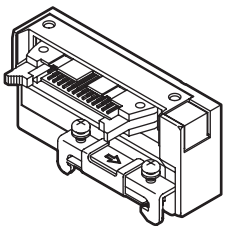
Block manifold configuration

Electrical section — Electrical block

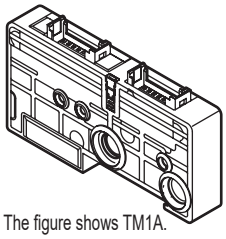
Ⓐ D sub-connector (T30(N)/T30(N)R)



Ⓑ Flat cable connector (T5*/T5*R)

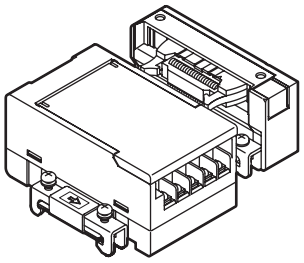


Ⓒ Intermediate electrical block (TM*)

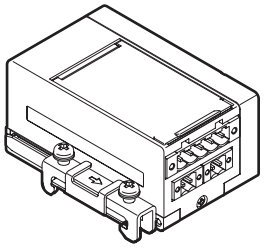


Note: The figure shows TM1A.

Ⓓ Serial transmission block (T6G1)



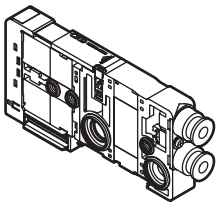
Ⓔ Serial transmission block (close contact) (T7*)



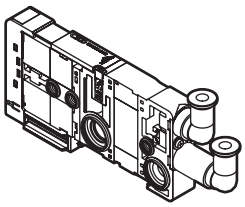
Piping section — Piping block

Ⓕ Valve block

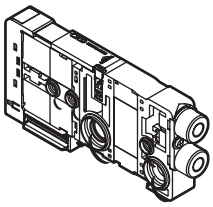
● Push-in fitting Lateral



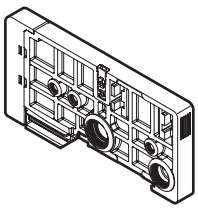
● Push-in fitting Upward



● Female thread (with non-rotation)

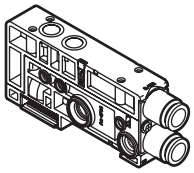


Ⓖ Dummy block (MP*)

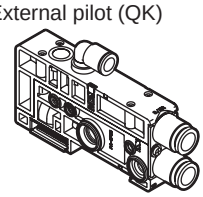


Ⓗ Supply and exhaust block

● Internal pilot (Q)

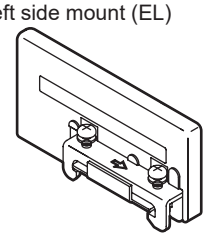


● External pilot (QK)

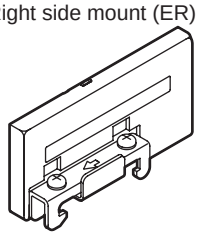


Ⓘ End block

Left side mount (EL)



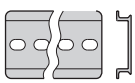
Right side mount (ER)



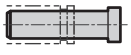
Related products — Related products

Ⓙ Related products

● Mounting rail

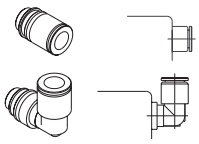


● Blanking plug

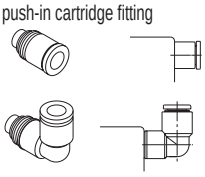


● Cable with D sub-connector

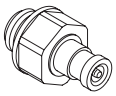
● Push-in cartridge fitting



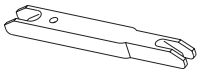
● Supply and exhaust block push-in cartridge fitting



● ø1.8 barbed threaded fitting



● Push-in fitting tube remover



● Power feed connector/replacement fuse for T50 power supply terminal

Electrical section

Electrical block

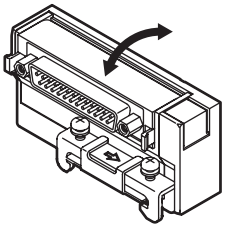
N4E0 - ( ) - P70

( ): Type of wiring block

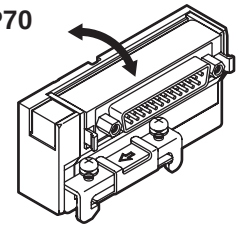
P70: Clean room specifications (clean room package)

Ⓐ D sub-connector (T30)

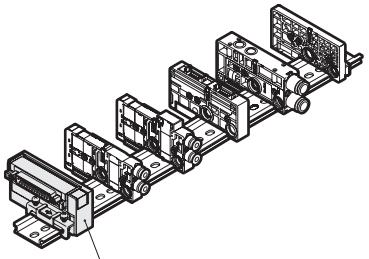
N4E0-T30-P70



N4E0-T30R-P70



* D sub-connector can be faced up or down.

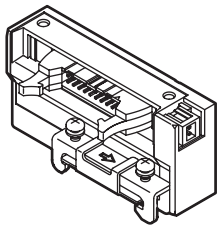


Ⓐ to Ⓔ Electrical block

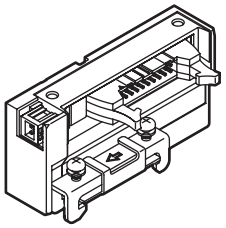
Ⓑ Flat cable connector (T5*)

● With power supply terminal

N4E0-T50-P70

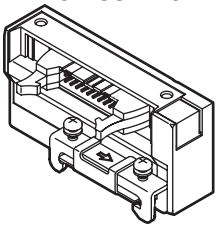


N4E0-T50R-P70

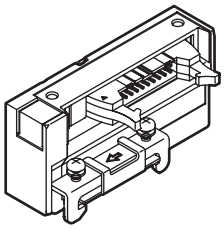


● Without power supply terminal

N4E0-T51-P70
N4E0-T52-P70
N4E0-T53-P70



N4E0-T51R-P70
N4E0-T52R-P70
N4E0-T53R-P70

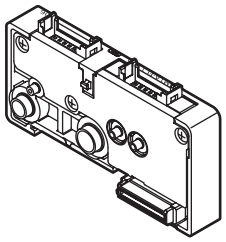


* The figure shows T51. T52 and T53 are different in the number of pins. (T51: 20 pins, T52: 10 pins, T53: 26 pins)

Ⓒ Intermediate electrical block

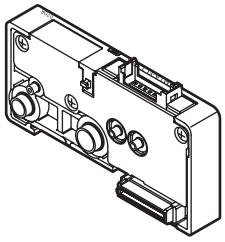
● RITS connector 6P × 2

N4E0-TMIA-P70



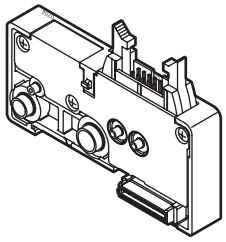
● RITS connector 6P

N4E0-TMIC-P70



● 10 pin flat cable connector

N4E0-TM52-P70

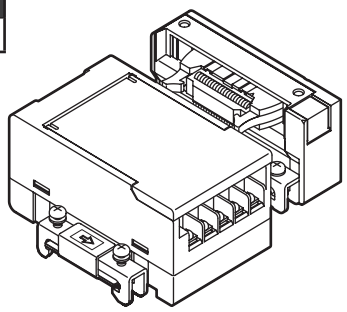


Ⓓ Serial transmission block (T6G1)

N4E0 - T6G1 - P70

Model No. Ⓐ Type

Code	Content
Ⓐ Type	
T6G1	CC-Link 16 points

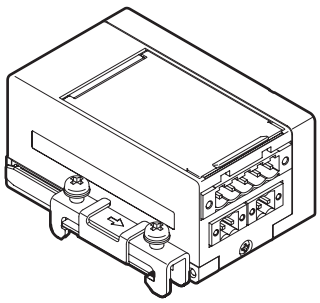


Ⓔ Serial transmission block (close contact) (T7*)

N4E0 - T7G2 - P70

Model No. Ⓐ Type

Code	Content
Ⓐ Type	
T7D1	DeviceNet 16 points
T7D2	DeviceNet 32 points
T7G1	CC-Link 16 points
T7G2	CC-Link 32 points
T7N1	S-LINK V 16 points
T7N2	S-LINK V 32 points
T7EC1	EtherCAT 16 points
T7EC2	EtherCAT 32 points
T7ECT1	EtherCAT 16 points
T7ECT2	EtherCAT 32 points
T7EN1	EtherNet/IP 16 points
T7EN2	EtherNet/IP 32 points



● Discrete serial transmission slave unit

4G - OPP3 - 1G - P70

Ⓐ Wiring method

Code	Description
Ⓐ Wiring method	
1G	CC-Link 16 points

*The slave unit is the same as the 4G Series.
Note that the model No. is "4G-*-*".

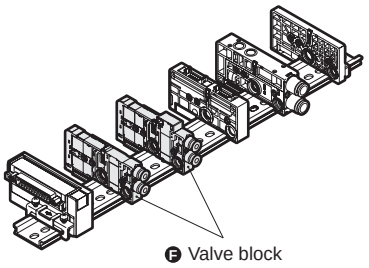
Piping section

Ⓕ Valve block

● Discrete valve block

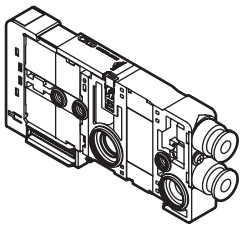
N 3 E 00 1 0 - C3 - M W EF - 3 - P70

Ⓑ Solenoid position · Ⓓ Manual operating device · Ⓔ Wiring method · Ⓖ Option · Ⓒ Port size · Ⓕ Terminal and connector pin wiring · Ⓗ Voltage · Model No. · Ⓐ Valve

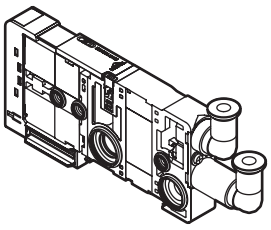


Code	Content			Model No. N3E00	Model No. N3E0	Model No. N4E00	Model No. N4E0
Ⓐ Valve/model No.							
N3E00	3-port valve or two 3-port valves integrated (7 mm pitch valve block)			●			
N3E0	3-port valve or two 3-port valves integrated (10 mm pitch valve block)				●		
N4E00	4-port valve (7 mm pitch valve block)					●	
N4E0	4-port valve (10 mm pitch valve block)						●
Ⓑ Solenoid position (*1)							
1	3-port valve	Single NC self reset	(differential pressure spring return)	●	●		
11	3-port valve	Single NO self reset	(differential pressure spring return)	●	●		
2	3-port valve	Double NC self holding		●	●		
21	3-port valve	Double NO self holding		●	●		
66	Dual 3-port valve integrated	A side valve: NC self reset	(differential pressure return)	●	●		
66S	Dual 3-port valve integrated	B side valve: NC self reset	(differential pressure spring return)	●	●		
67	Dual 3-port valve integrated	A side valve: NC self reset	(differential pressure return)	●	●		
67S	Dual 3-port valve integrated	B side valve: NO self reset	(differential pressure spring return)	●	●		
76	Dual 3-port valve integrated	A side valve: NO self reset	(differential pressure return)	●	●		
76S	Dual 3-port valve integrated	B side valve: NC self reset	(differential pressure spring return)	●	●		
77	Dual 3-port valve integrated	A side valve: NO self reset	(differential pressure return)	●	●		
77S	Dual 3-port valve integrated	B side valve: NO self reset	(differential pressure spring return)	●	●		
1	4-port valve	2-position single self reset	(differential pressure spring return)			●	●
2	4-port valve	2-position double self hold				●	●
3	4-port valve	3-position all ports closed					●
4	4-port valve	3-position A/B/R connection					●
5	4-port valve	3-position P/A/B connection					●
Ⓒ Port size							
CF	ø1.8 push-in fitting, Lateral (applicable tube UP-9402, EH-5802)				●		●
C18	ø1.8 push-in fitting, Lateral (applicable tube UP-9402, EH-5802)			●	●	●	●
CL18	ø1.8 push-in fitting, facing up (applicable tube UP-9402, EH-5802)			●	●	●	●
C3	ø3 push-in fitting, Lateral			●		●	
CL3	ø3 push-in fitting, facing up			●		●	
C4	ø4 push-in fitting, Lateral			●	●	●	●
CL4	ø4 push-in fitting, facing up			●	●	●	●
C6	ø6 push-in fitting, Lateral				●		●
CL6	ø6 push-in fitting, facing up				●		●
M3	M3 female thread (with non-rotation)			●		●	
M5	M5 female thread (with non-rotation)				●		●
C3N	ø1/8" push-in fitting lateral			●	●	●	●
CL3N	ø1/8" push-in fitting upward			●	●	●	●
C4N	ø5/32" push-in fitting lateral			●	●	●	●
CL4N	ø5/32" push-in fitting upward			●	●	●	●
Ⓓ Manual operating device							
Blank	Non-locking/locking common (with manual cover)			●	●	●	●
M	Manual override for non-locking (with manual cover)			●	●	●	●
Ⓔ Wiring method							
Refer to the following page about wiring method.				●	●	●	●
Ⓕ Terminal and connector pin wiring							
Blank	Standard wiring			●	●	●	●
W	Double wiring (for reduced wiring) (*2, *3)			●	●	●	●
Ⓖ Option							
Blank	None			●	●	●	●
E	Low-heat and energy saving circuit (*4, *5)			●	●	●	●
U	Built-in individual power supply function (AUX) (*5, *6)				●		●
A	Ozone proof (*7)				●		●
F	Built-in port A/B filter			●	●	●	●
Ⓗ Voltage							
3	24 VDC			●	●	●	●
4	12 VDC			●	●	●	●

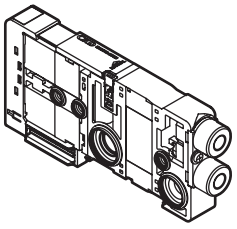
● Push-in fitting Lateral



● Push-in fitting facing up



● Female thread (with non-rotation)



***1: For specifications of the self reset, refer to the precautions on page 412.**

*2: Double wiring is available only for the 2-position single solenoid valve.

*3: Double wiring is not available for a single unit of individual wiring valve block.

*4: N3E00 and N4E00 individual wiring is not available for the low exoergic/reduced wiring circuit type.

*5: Energizing is limited to the plus common. Also, "E" and "U" cannot be selected together.

*6: "U" is not available for individual wiring.

*7: Supported as standard for N3E00 and N4E00.

(Wiring method list)

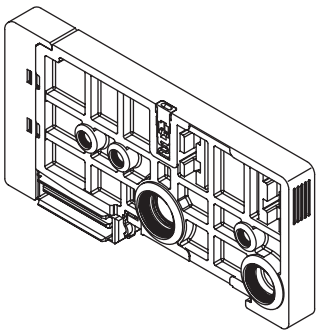
Code	Content		Model No. N3E00	N3E0	N4E00	N4E0
Ⓔ Wiring method						
Blank	Valve block for reduced wiring		●	●	●	●
D2	Individual wiring	D connector lead wire length 300 mm	●	●	●	●
D20		D connector lead wire length 500 mm	●	●	●	●
D21		D connector lead wire length 1000 mm	●	●	●	●
D22		D connector lead wire length 2000 mm	●	●	●	●
D23		D connector lead wire length 3000 mm	●	●	●	●
D2N		D connector without lead wire without socket	●	●	●	●
D3		D connector without lead wire with socket/terminal	●	●	●	●

Ⓖ Dummy block

N4E0 - MPD - P70

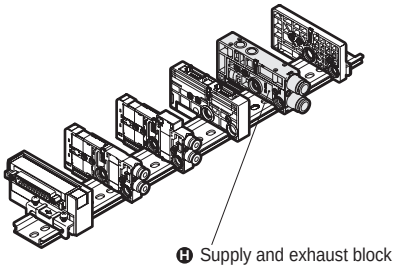
Ⓐ Type

Ⓐ Type	
MPS	Single wiring
MPD	Double wiring



Piping section

Ⓗ Supply and exhaust block



- This 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.)
- Supply the air for dual 3-port valve integrated with Q-6□ and 8□. (This cannot be used with the external pilot.)

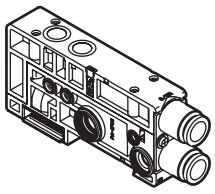
N4E0 - Q - 8 - SA - C - P70

Model No. Ⓐ Type Ⓑ Port size Ⓒ Option Ⓓ Wiring method

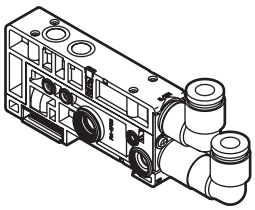
Ⓐ Type (*1)		Ⓑ Port size (port P/R) (*2)		Ⓒ Option (*3, *5)		Ⓓ Wiring method	
Q	Internal pilot	**6**	ø6 push-in fitting	**Blank**	Without partition	**Blank**	Internal wiring circuit selected
QK	External pilot	**6L**	ø6 push-in fitting Upward	**S**	P/R stop, PA/PR through	**C**	Without internal wiring circuit (*4)
QZ	Multi-pressure circuit (P, R only)	**8**	ø8 push-in fitting	**SA**	P/R/PA/PR locking		
QKZ	Multi-pressure circuit, external pilot (P, R, PA, PR separate)	**8L**	ø8 push-in fitting Upward				
		6N	ø1/4" push-in fitting				
		6LN	ø1/4" push-in fitting upward				
		8N	ø5/16" push-in fitting				
		8LN	ø5/16" push-in fitting upward				

*1: QZ cannot be used as discrete part. Use it with another type (Q/QK/QKZ).
*2: A filter for preventing entry of foreign matter is incorporated in P port.
*3: The manifold port is faced toward you to shield the flow path between the supply/exhaust block and the block on the right side. (Refer to the circuit diagram on page 410.)
Option Code
S: Blocks the 1 (P) and 3 (R) flow paths.
SA: Blocks the 1 (P), 3 (R), 12/14 (PA) and 82/84 (PR) flow paths.
*4: When using the wiring block with a [left + right] or [intermediate + right] combination, arrange the supply/exhaust block "without internal wiring circuit" between the left control station and the right control station.
*5: When the end block N4EO-ER is selected and the supply and exhaust block are installed adjacent to the left side, options S and SA cannot be selected.

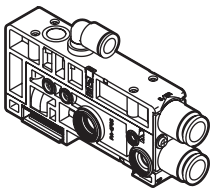
● Q-8(N)
QZ-8(N)



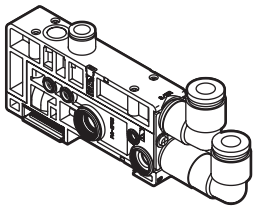
● Q-8L(N)
QZ-8L(N)



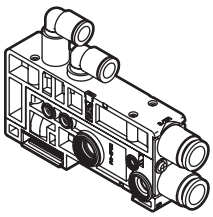
● QK-8(N)



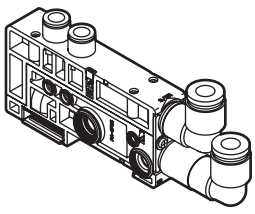
● QK-8L(N)



● QKZ-8(N)



● QKZ-8L(N)



Ⓘ End block

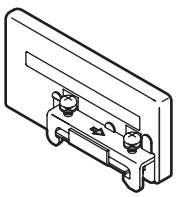
- Mount the block on the left or right side with the piping port facing forward.

N4E0 - ER - P70

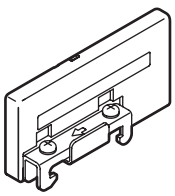
Model No. Ⓐ Type

Ⓐ Type	
EL	Left side mounting
ER	Right side mounting

● N4E0-EL

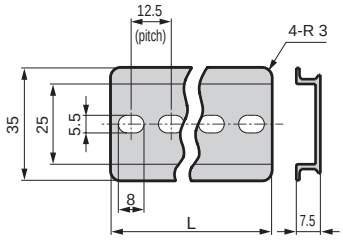


● N4E0-ER



J Related products

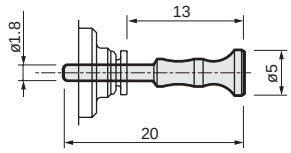
● Mounting rail
N4G-BAA [length]



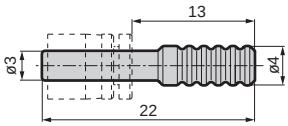
*Cannot be used with inch fitting specifications.

● Blanking plug (accessory)

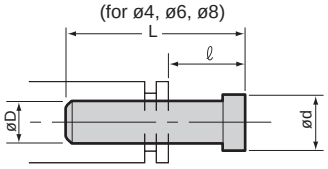
PG-P2-B (for ø1.8)



N4E00-JOINT-PP3MW (for ø3)



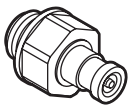
(for ø4, ø6, ø8)



Model No.	D	L	ℓ	d
GWP4-B	ø4	27	16	6
GWP6-B	ø6	29	17	8
GWP8-B	ø8	33	17.5	10

● ø1.8 barbed fitting (10 pcs./set)

N4E0 - JOINT - PTN2-M5



Code	Dimensions
PTN2-M3	Barbed fitting M3 screw-in
PTN2-M5	Barbed fitting M5 screw-in
PTN2-6	Barbed fitting R1/8

* Contact CKD separately regarding fiber tube.

● Push-in fitting tube remover

N4E0-EOT18-4 (for ø1.8, ø3, ø4)
N4S0-EOT4-6 (for ø3, ø4, ø6)

K Related products

● Push-in cartridge fitting

N4E00 - JOINT - C4 - P70

Dedicated for valve block.

Code	Dimensions
C18	ø1.8 push-in Cartridge fitting
C3	Push-in cartridge fitting for ø3 tube Cartridge fitting
C4	For ø4 tube Push-in cartridge fitting
CL18	ø1.8 short L type push-in Cartridge fitting
CL3	Short L type push-in cartridge fitting for ø3 tube Cartridge fitting
CL4	Short L type for ø4 tube Push-in cartridge fitting
CLL18	ø1.8 long L type push-in Cartridge fitting
CLL3	Long L type push-in cartridge fitting for ø3 tube Cartridge fitting
CLL4	Long L type for ø4 tube Push-in cartridge fitting
CPG	Plug cartridge
CP	Fitting fixing plate (with small machine screw for plate fixing)
CM3	M3 Cartridge fitting
CMB	M3 Plug cartridge (Rotation-stop plate for M3 fitting: CMP is necessary for fixing.)
CMP	Fitting rotation-stop plate for M3 (with small machine screw for plate fixing)
C3N	Push-in cartridge fitting for ø1/8" tube Cartridge fitting
C4N	For ø5/32" tube Push-in cartridge fitting
CL3N	Short L type push-in cartridge fitting for ø1/8" tube Cartridge fitting
CL4N	Short L type for ø5/32" tube Push-in cartridge fitting
CLL3N	Long L type push-in cartridge fitting for ø1/8" tube Cartridge fitting
CLL4N	Long L type for ø5/32" tube Push-in cartridge fitting

●Push-in cartridge fitting for supply and exhaust block

N4E0 - Q - JOINT - 8 - P70

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

Code	Dimensions
6	For ø6 tube Push-in cartridge fitting
8	For ø8 tube Push-in cartridge fitting
6L	Short L type for ø6 tube Push-in cartridge fitting
8L	Short L type for ø8 tube Push-in cartridge fitting
6LL	Long L type for ø6 tube Push-in cartridge fitting
8LL	Long L type for ø8 tube Push-in cartridge fitting
6N	For ø1/4" tube Push-in cartridge fitting
8N	For ø5/16" tube Push-in cartridge fitting
6LN	Short L type for ø1/4" tube Push-in cartridge fitting
8LN	Short L type for ø5/16" tube Push-in cartridge fitting
6LLN	Long L type for ø1/4" tube Push-in cartridge fitting
8LLN	Long L type for ø5/16" tube Push-in cartridge fitting
P	Fitting fixing plate (with small machine screw for plate fixing)

N4E0 - JOINT - C4 - P70

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

Code	Dimensions
CF	ø1.8 barbed Cartridge fitting
C18	ø1.8 push-in Cartridge fitting
C4	For ø4 tube Push-in cartridge fitting
C6	For ø6 tube Push-in cartridge fitting
CL18	ø1.8 short L type push-in Cartridge fitting
CL4	Short L type for ø4 tube Push-in cartridge fitting
CL6	Short L type for ø6 tube Push-in cartridge fitting
CLL18	ø1.8 long L type push-in Cartridge fitting
CLL4	Long L type for ø4 tube Push-in cartridge fitting
CLL6	Long L type for ø6 tube Push-in cartridge fitting
CPG	Plug cartridge
CP	Fitting fixing plate (with small machine screw for plate fixing)
CM5	M5 cartridge fitting (Rotation-stop plate for M5 fitting: CMP is necessary for fixing.)
CMB	M5 plug cartridge (Rotation-stop plate for M5 fitting: CMP is necessary for fixing.)
CMP	Fitting rotation-stop plate for M5 (with small machine screw for plate fixing)
C3N	For ø1/8" tube Push-in cartridge fitting
C4N	For ø5/32" tube Push-in cartridge fitting
CL3N	Short L type for ø1/8" tube Push-in cartridge fitting
CL4N	Short L type for ø5/32" tube Push-in cartridge fitting
CLL3N	Long L type for ø1/8" tube Push-in cartridge fitting
CLL4N	Long L type for ø5/32" tube Push-in cartridge fitting

K Related products

● Socket assembly for power supply (for individual wiring, AUX)

N4E0 - SOCKET - D - 300 - P70

A Type *1 B Lead wire length

A Type	
S	2 wires (for single solenoid)
D	3 wires (for double solenoid)
B Lead wire length	
300	300mm
500	500mm
1000	1000mm
2000	2000mm
3000	3000mm

*1: The model No. without lead wire is 3M0-SOCKET-SET.
(3 contacts attached, applicable wire diameter: AWG#26 to 28)

N4E00 - SOCKET - D - 300 - P70

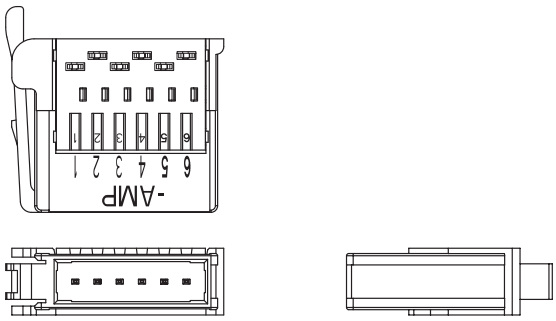
A Type *1 B Lead wire length

A Type	
S	2 wires (for single solenoid)
D	3 wires (for double solenoid)
B Lead wire length	
300	300mm
500	500mm
1000	1000mm
2000	2000mm
3000	3000mm

*1: The model No. without lead wire is N4E00-SOCKET-SET.
(3 contacts attached, applicable wire diameter: AWG#26 to 28)

● Connector for wiring block TM1 (RITS connector 6P)

N4E0-TM-CONNECTOR-P70 Tyco Electronics Japan G.K. RITS connector 6P (part No.: 1473562-6)



・Compatible wire (Tin-plated wire recommended)

Sheath finished O.D.	Ref. wire X-sectional area	No. of strands/diameter
mm	mm^2	No./mm
ø1.0 to 1.15	ø0.2 to 0.3	up to 60/0.08

For the detailed specifications of applicable wires, confirm with * below.
*Tyco Electronics Japan, LLC.
Product Information Center
TEL 044-844-8052
URL http://www.te.com/jpn-ja/about-te/our-company/te-japan.html
・Dedicated crimping tool 1729940-1

● Feed connector for power supply terminal for T50

N4E0-T50-CONNECTOR-P70

[Compatible wires AWG28-20 / 0.08 to 0.5mm^2
(Commercially available WAGO connector plug 733-102)]

● Replacement fuse for T50

4T9-LM16-P70

[LM16, Daito Comm. Apparatus Co., Ltd.]

● Communication connector for T7D

MSTB2.5/5 - STF - 5.08AUM

Phoenix Contact (Part No.: 5880008)

● Communication connector for T7G and T7N

BLZP5.08HC/05/180F SN OR BX Weidmüller Corp. (Part No.: 194412)

● Power supply connector for T7D, T7G, T7N

BL3.5/2F Weidmüller Corp. (Part No.: 160664)

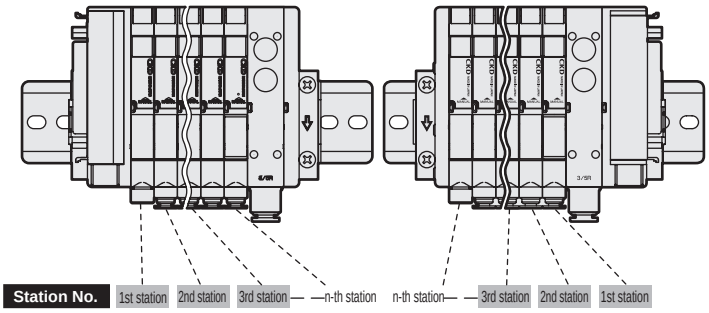
MEMO

D-sub connector: Wiring method T30(N)

T30(N) connector

Connectors used for T30(N) wiring, called a D sub-connector, is used widely for FA and OA devices. The 25P is an RS232C Standards designated connector especially used for personal computer communication.

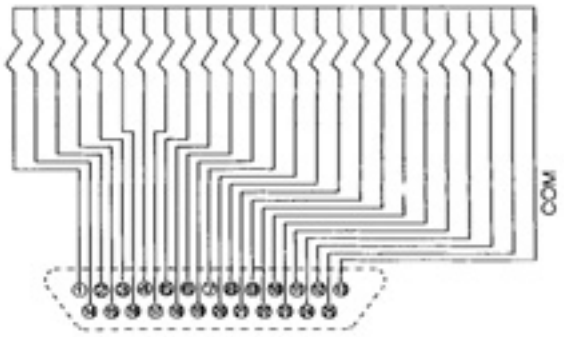
■ The manifold station No. are counted as station 1, station 2, station 3, and so forth starting from the wiring block side. The counting direction is opposite for the T30(N) and T30(N)R.



Precautions for connector T30(N)

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

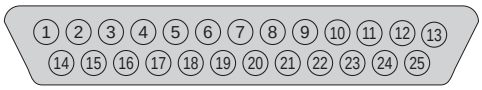
* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.



T30(N) connector pin array (example)

*1 The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum number of stations varies depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

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	

[Double wiring]

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.	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	

● For double solenoid valve

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 solenoid mixture)

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

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.	(Void)	(Void)	3b	4b	(Void)	(Void)	7b	(Void)	(Void)	(Void)	11b	12b	

How to order cable with D sub-connector

N4T - CABLE - D 0 0 - 1 - P70

* Each pneumatic valve model can be used for D sub-connector T30(N).

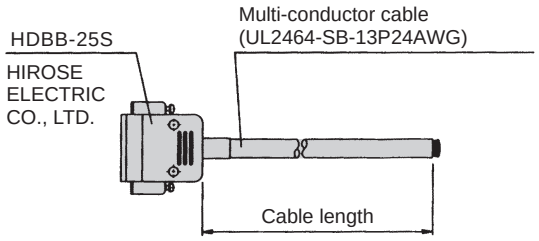
Ⓐ User side connection

Ⓑ Cable length

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

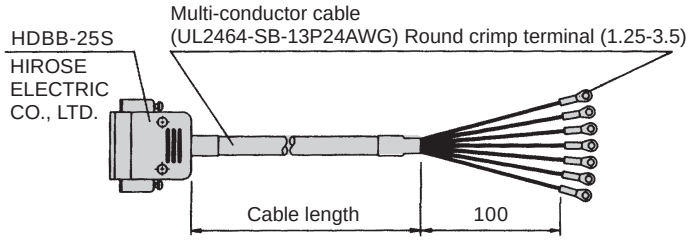
D sub-connector terminal No. and conductor

● N4T-CABLE-D00-Ⓑ



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

● N4T-CABLE-D01-Ⓑ



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

* Available for up to 24 points. Cut the wires for surplus points before use.

Flat cable connector: Wiring method T50

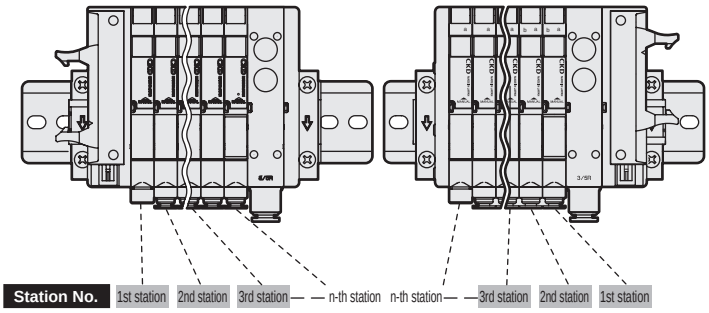
T50 connector

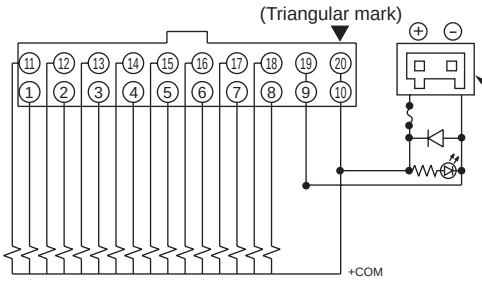
The connector used for T50 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable.
Pin No. is assigned differently based on the PLC manufacturer, but the function assignment is the same.
Layout using connectors and the triangular mark (▼) shown below as a reference. The ▼ mark is the reference for both the plug and socket.

Precautions for connector T50

(1) Signal arrays of the PLC output unit must match signal arrays of 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) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

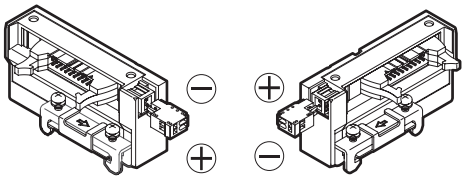
■ The manifold station No. are counted as station 1, station 2, station 3, and so forth starting from the wiring block side. The counting direction is opposite for the T50 and T50R.



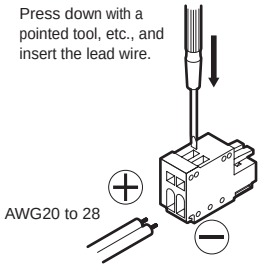


Feed connector
WAG0 connector plug
733-102
(supplied with the product)

Replacement fuse
LM16 manufactured by Daito Communication Apparatus Co., Ltd. (CKD part No. 4T9-LM16)



Polarity of feed connector

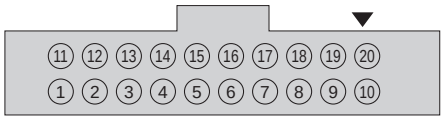


Cable connection

T50 connector pin array (example)

*1 The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum number of stations varies depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

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

[Double wiring]

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

● For double solenoid valve

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 solenoid mixture)

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

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

Flat cable connector: Wiring method T51

T51 connector

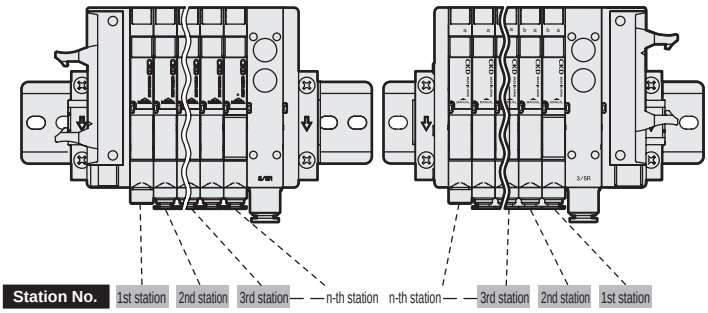
The connector used for T51 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable. Pin numbers are assigned differently based on the PLC manufacturer, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.

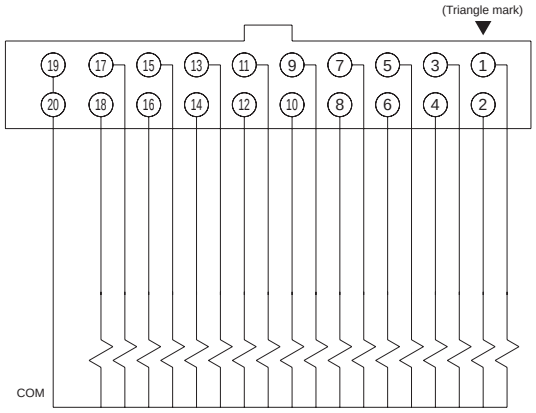
Precautions for connector (T51)

(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T51 is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

■ The manifold station No. are counted as station 1, station 2, station 3, and so forth starting from the wiring block side. The counting direction is opposite for the T51 and T51R.

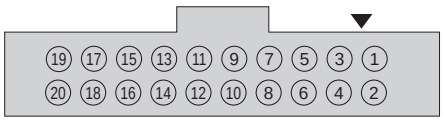




T51 connector pin array (example)

*1 The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum number of stations varies depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

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

[Double wiring]

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

● For double solenoid valve

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

● For mixed use (single/double solenoid mixture)

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

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

Flat cable connector: Wiring method T52

T52 connector

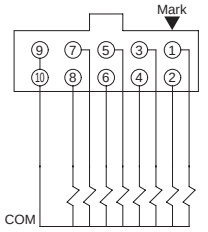
The connector used for T52 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable. Pin numbers are assigned differently based on the PLC manufacturer, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.

* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

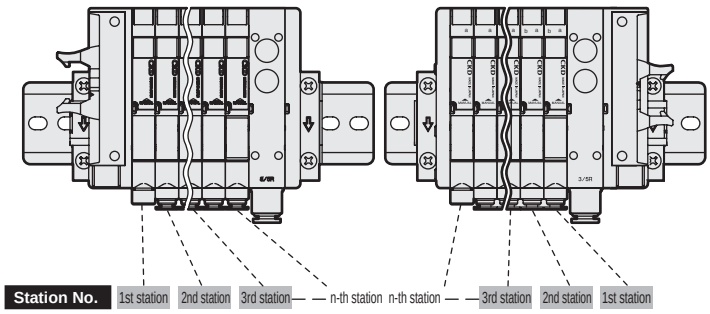
Precautions for connector (T52)

(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T52 is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Connector pin array diagram
(TOP VIEW)
and internal circuit diagram



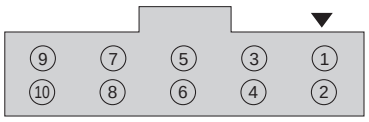
■ The manifold station No. are counted as station 1, station 2, station 3, and so forth starting from the wiring block side. The counting direction is opposite for the T52 and T52R.



T52 connector pin array (example)

*1 The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum number of stations varies depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	9	7	5	3	1
Valve No.	COM	7a	5a	3a	1a
Pin No.	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	8a	6a	4a	2a

[Double wiring]

Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	(Void)	(Void)	(Void)	(Void)

● For double solenoid valve

Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	4b	3b	2b	1b

● For mixed use (single/double solenoid mixture)

Pin No.	9	7	5	3	1
Valve No.	COM	5b	4b	3a	1a
Pin No.	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	6a	5a	4a	2a

Pin No.	9	7	5	3	1
Valve No.	COM	4a	3a	2a	1a
Pin No.	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	4b	(Void)	(Void)	(Void)

Flat cable connector: Wiring method T53

T53 connector

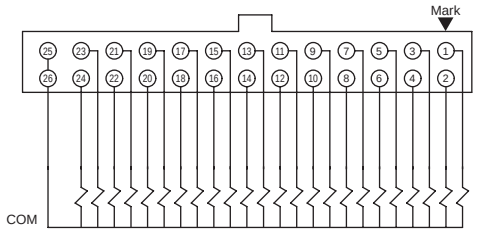
The connector used for T53 wiring method complies with MIL Standards (MIL-C-83503).
Wiring work is simplified with the pressure welded flat cable. Pin numbers are assigned differently based on the PLC manufacturer, but the function assignment is the same. Layout using connectors and the triangular mark (▼) shown below as a reference. The (▼) mark is the reference for both the plug and socket.

* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

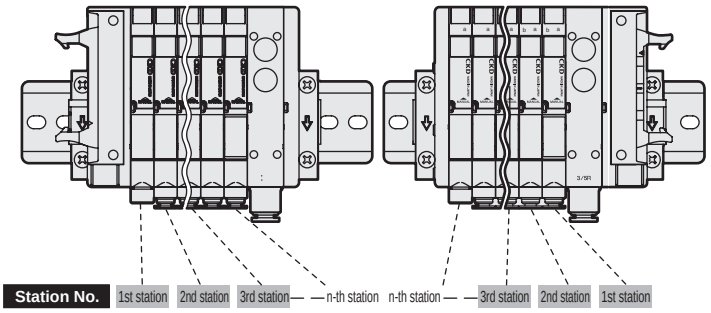
Precautions for connector (T53)

(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T53 is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur in this device and in peripherals. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Connector pin layout diagram (TOP VIEW) and internal circuit diagram



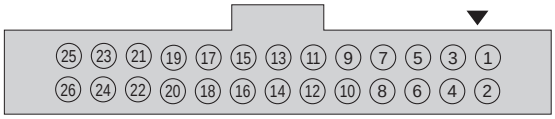
■ The manifold stations are counted as station 1, station 2, station 3 and so forth starting from the wiring block side. The counting direction is opposite for the T53 and T53R.



T53 connector pin array (example)

*1 The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum number of stations varies depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	23a	21a	19a	17a	15a	13a	11a	9a	7a	5a	3a	1a
Pin No.	**26**	**24**	**22**	**20**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	24a	22a	20a	18a	16a	14a	12a	10a	8a	6a	4a	2a

[Double wiring]

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	**26**	**24**	**22**	**20**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)	(Void)

● For double solenoid valve

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	**26**	**24**	**22**	**20**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	12b	11b	10b	8b	8b	7b	6b	5b	4b	3b	2b	1b

● For mixed use (single/double solenoid mixture)

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	16a	15a	14a	12a	10a	9a	8a	7a	5b	4b	3a	1a
Pin No.	**26**	**24**	**22**	**20**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	16b	15b	14b	13a	11a	9b	8b	7b	6a	5a	4a	2a

Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	**26**	**24**	**22**	**20**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	(Void)	(Void)	(Void)	9b	8b	7b	(Void)	5b	4b	(Void)	(Void)	(Void)

Intermediate wiring block: Wiring method TM*

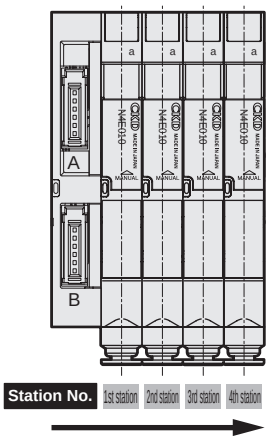
Precautions for TM wiring method

(1) Signal arrays of the PLC output unit must match signal arrays of the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The TM* is driven with a general output unit.
(4) Do not connect this manifold to the input unit as major faults could occur. Connect this manifold to the output unit.
(5) The voltage could drop because of simultaneous energizing or the cable length.
Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

How to count stations

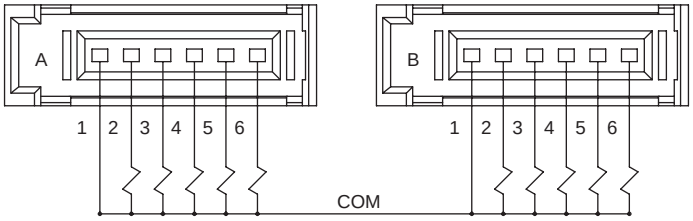
The manifold stations are counted from electrical block TM to the right with the wiring ports facing forward.



Wiring method TM1A

Connector for wiring method TM1A

RITS connector 6P (1473562-6) Tyco Electronics Japan G.K. made
The pin No. 1 to 6 are stamped on the connector. Input is allowed up to 10 points as shown below.



* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

TM1A connector pin array (example)

The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The max. station No. of manifold differs based on the model, but there are a max. of 10 solenoid (coil) points.

[Standard wiring]

● For single solenoid valve

	Connector A						Connector B					
Pin No.	1	2	3	4	5	6	1	2	3	4	5	6
Valve No.	COM	1a	2a	3a	4a	5a	COM	6a	7a	8a	9a	10a

[Double wiring]

	Connector A						Connector B					
Pin No.	1	2	3	4	5	6	1	2	3	4	5	6
Valve No.	COM	1a	(Void)	2a	(Void)	3a	COM	(Void)	4a	(Void)	5a	(Void)

● For double solenoid valve

	Connector A						Connector B					
Pin No.	1	2	3	4	5	6	1	2	3	4	5	6
Valve No.	COM	1a	1b	2a	2b	3a	COM	3b	4a	4b	5a	5b

● For mixed use (single/double solenoid mixture)

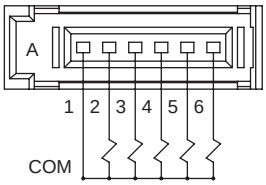
	Connector A						Connector B					
Pin No.	1	2	3	4	5	6	1	2	3	4	5	6
Valve No.	COM	1a	2a	2b	3a	4a	COM	5a	5b	6a	7a	7b

	Connector A						Connector B					
Pin No.	1	2	3	4	5	6	1	2	3	4	5	6
Valve No.	COM	1a	(Void)	2a	2b	3a	COM	(Void)	4a	(Void)	5a	5b

Wiring method TM1C

Connector for wiring method TM1C

RITS connector 6P (1473562-6) manufactured by Tyco Electronics Japan G.K.
On the connector No. 1 to 6 is stamped on it. Input is allowed up to 5 points as shown below.



* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

TM1C connector pin array (example)

The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum station number of manifold differs based on the model, but the maximum is 5 solenoid (coil) points.

● For single solenoid valve

[Standard wiring]

Pin No.	1	2	3	4	5	6
Valve No.	COM	1a	2a	3a	4a	5a

[Double wiring]

Pin No.	1	2	3	4	5	6
Valve No.	COM	1a	(Void)	2a	(Void)	(Void)

● For double solenoid valve

Pin No.	1	2	3	4	5	6
Valve No.	COM	1a	1b	2a	2b	(Void)

● For mixed use (single/double solenoid mixture)

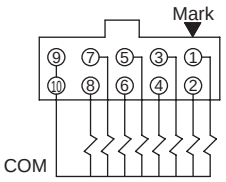
Pin No.	1	2	3	4	5	6
Valve No.	COM	1a	2a	2b	3a	4a

Pin No.	1	2	3	4	5	6
Valve No.	COM	1a	(Void)	2a	2b	3a

Wiring method TM52

Connector for wiring method TM52

MIL standards (MIL-C-83503) compatible 10 pin flat cable connector
Pin numbers 1 to 10 are set on the connector starting at the ▼ marked as shown below. Input is allowed up to 8 points.



* When using the valve block with individual power supply function (AUX), with low exoergic or energy saving circuit, energizing is limited to the plus common.

TM52 connector pin array (example)

The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum station number of manifold differs based on the model, but the maximum is 8 solenoid (coil) points.

● For single solenoid valve

[Standard wiring]

Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	COM	

[Double wiring]

Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	COM	

● For double solenoid valve

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 solenoid mixture)

Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	2a	2b	3a	4a	5a	5b	6a	COM	

Pin No.	1	2	3	4	5	6	7	8	9	10
Valve No.	1a	(Void)	2a	2b	3a	(Void)	4a	(Void)	COM	

Wiring block mix

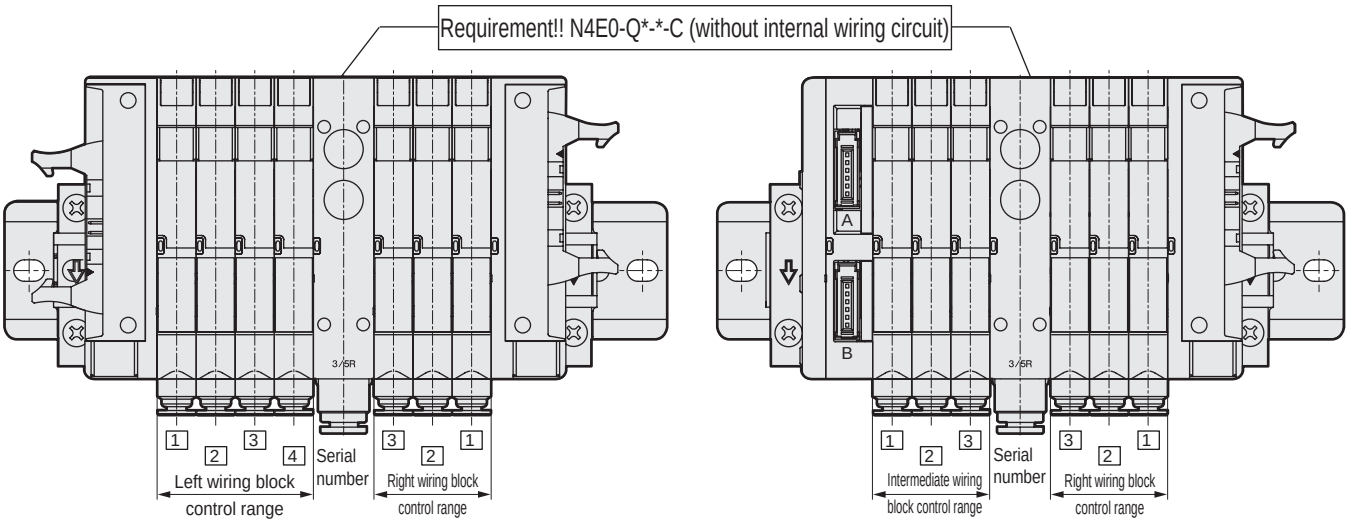
How to count stations

With the piping port facing toward you, the manifold station numbers are counted

- Left wiring blocks (T30, T50, T51, T52, T53)
- Intermediate electrical block (TM1A, TM1C, TM52)

} from left to right.

- Right wiring blocks (T30R, T50R, T51R, T52R, T53R) from right to left.



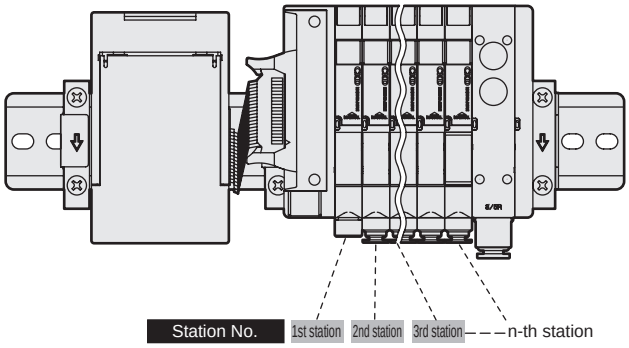
When mixing the right wiring block with another wiring block, the left/right wiring block circuits may connect via the manifold and result in unexpected valve operation. Be sure to install the “N4E0-Q*-*-C type without supply and exhaust block internal wiring circuit” at the end of the right wiring block control station, so that the left and right wiring in the manifold are not connected.

MEMO

Serial transmission: Wiring method T6G1

T6G1 serial transmission

- The slave unit's output number differs with the manufacturer. The connector pin number 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 electrical block position.
- Internal connectors are wired in order, so there may be some void numbers depending on the number of stations. These void outputs cannot be used for drive other than the solenoid manifold in use.
- The power is limited to 24 VDC.
- A slave unit for each communication system is used. Contact CKD for the specifications on the usable PLC models, host unit models and communication systems. (Refer to page 404)
- Output No. is 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 the plug and socket.



Correspondence of output No. and connector pin No.

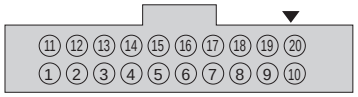
● T6G1

Output No.	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
Connector pin No.	1	2	3	4	5	6	7	8	11	12	13	14	15	16	17	18

T6G1 connector pin array (example)

*1 The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. The maximum number of stations varies depending on the model No. Check the individual specifications.

Connector pin No.



● For single solenoid valve

[Standard wiring]

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

[Double wiring]

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

● For double solenoid valve

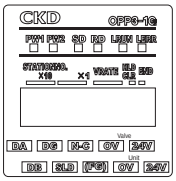
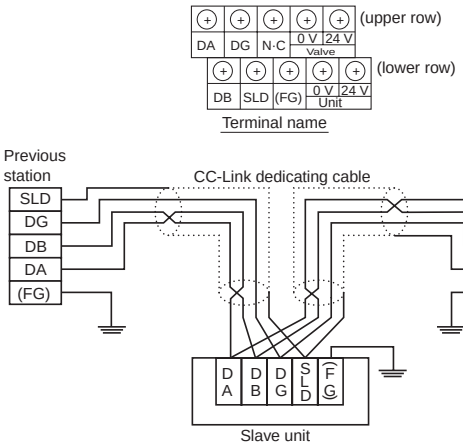
Pin No.	11	12	13	14	15	16	17	18	19	20
Valve No.	5a	5b	6a	6b	7a	7b	8a	8b		+COM
Pin No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b		+COM

● For mixed use (single/double solenoid mixture)

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

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

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

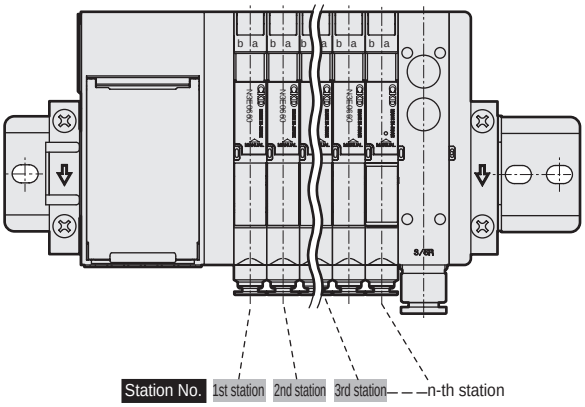
	LED display	Wiring method
T6G1		

LED name	Display description
PW1	Lights when unit power is ON.
PW2	Lights when valve power is ON.
SD	Turns ON when sending data.
RD	Turns ON when receiving data.
L RUN	This stays ON when normal data is received and turns off when the time limit comes. (This stays ON when normal data is received.)
L ERR	This stays ON when a transmission error occurs. This turns off when the time limit comes. This stays ON when the station No. setting or transmission speed setting is incorrect. This flashes when the station No. setting or transmission speed setting changes midway.

Serial transmission: Wiring method T7*

T7* serial transmission

- The slave unit I/O numbers differ based on each PLC maker, so see the following tables.
- The slave unit I/O numbers correspond to the manifold solenoids as shown below.
- The solenoid valve manifold station numbers are set in order from left with the piping port facing forward.
- The power is limited to 24 VDC.
- A slave unit for each communication system is used. Contact CKD for the specifications on the usable PLC model nos., host unit model nos. and communication systems. (Refer to page 404)
- Securely tighten each connector (power/communication) after inserting into the product. Close the cover after completing the address settings, etc. (Recommended tightening torque: 0.25 N·m for power supply, 0.3 N·m for communication)



Correspondence of PLC address and serial transmission slave unit I/O No.

(1) Hexadecimal notation

Serial transmission slave unit I/O No.	0	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	26	27	28	29	30	31
CC-Link DeviceNet S-LINK V EtherCAT EtherNet/IP	Y00	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y0A	Y0B	Y0C	Y0D	Y0E	Y0F	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y1A	Y1B	Y1C	Y1D	Y1E	Y1F

(2) For decimal notation

Serial transmission slave unit I/O No.	0	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	26	27	28	29	30	31
CC-Link DeviceNet S-LINK V EtherCAT EtherNet/IP	Y0																Y1															
	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15

Y** indicates output.

Solenoid output No. corresponding to serial transmission slave unit I/O No.

Slave unit	Max. solenoids	Serial transmission slave unit I/O No. 0	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	26	27	28	29	30	31
•T7G1 (CC-Link) •T7D1 (DeviceNet) •T7N1 (S-LINK V) •T7EC1 (EtherCAT) •T7EN1 (EtherNet/IP)	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16																
•T7G2 (CC-Link) •T7D2 (DeviceNet) •T7N2 (S-LINK V) •T7EC2 (EtherCAT) •T7EN2 (EtherNet/IP)	32 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32

Valve No. layout corresponding to wiring method T7* solenoid output No. (example)

* The numbers of valve No. (1a, 1b, 2a, 2b ...) indicate the order of stations (first station, second station, ...) and the alphabets a and b indicate the a side solenoid valve and b side solenoid valve respectively. Max. station No. differs depending on the model. Check the individual specifications.

[Standard wiring]

● For single solenoid valve (Max. 16 stations)

Solenoid valve output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	9a	10a	11a	12a	13a	14a	15a	16a																

● For double solenoid valve

Solenoid valve output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b	6a	6b	7a	7b	8a	8b	9a	9b	10a	10b	11a	11b	12a	12b	13a	13b	14a	14b	15a	15b	16a	16b

● For mixed use (single/double mixture) (Max. 16 stations)

Solenoid valve output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	2a	3a	3b	4a	4b	5a	6a	7a	7b	8a	9a	10a	10b	11a	11b	12a	13a	14a	14b	15a	15b	16a									

[Double wiring]

● For single solenoid valve

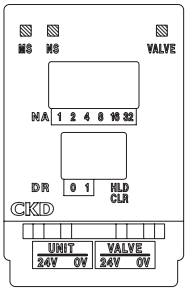
Solenoid valve output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	(Void)	2a	(Void)	3a	(Void)	4a	(Void)	5a	(Void)	6a	(Void)	7a	(Void)	8a	(Void)	9a	(Void)	10a	(Void)	11a	(Void)	12a	(Void)	13a	(Void)	14a	(Void)	15a	(Void)	16a	(Void)

● For mixed use (single/double solenoid mixture)

Solenoid valve output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	(Void)	2a	(Void)	3a	3b	4a	4b	5a	(Void)	6a	(Void)	7a	7b	8a	(Void)	9a	(Void)	10a	(Void)	11a	11b	12a	12b	13a	(Void)	14a	(Void)	15a	15b	16a	(Void)

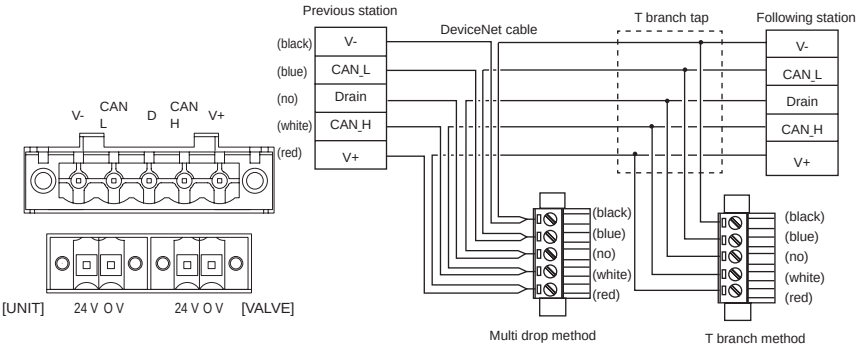
T7D1 T7D2

LED display



LED name	Display description
MS	Slave status is indicated with green and red LEDs. Errors are indicated using combinations with "NS LED".
NS	Network status is indicated with green and red LEDs. Errors are indicated using combinations with "MS LED".

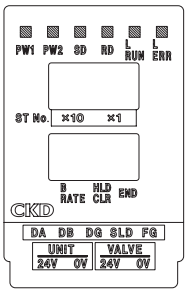
Wiring method



- Power is connected to the 2-pole connector.
- The DeviceNet cable is connected to the 5-pole connector.
- The power terminal (24 V, 0 V) is insulated from the communication power terminal (V+, V-).
- The wiring section connectors are enclosed.

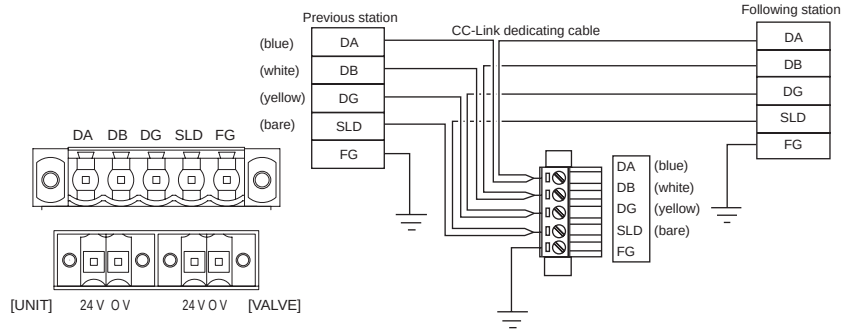
T7G1 T7G2

LED display



LED name	Display description
PW	Lights when power is ON.
SD	Lights when transmitting data.
RD	Lights when receiving data.
L RUN	This stays ON when normal data is received. This turns OFF when time is over.
L ERR	This stays ON when a transmission error occurs. Turns OFF when time over occurs. Lights when station No. or transmission speed setting fails. Blinks when station No. or transmission speed in setting changes.

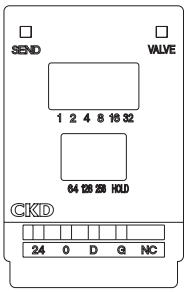
Wiring method



- Power is connected to the 2-pole connector.
- CC-Link cable is connected to the 5-pole connector.
- The wiring section connectors are enclosed.

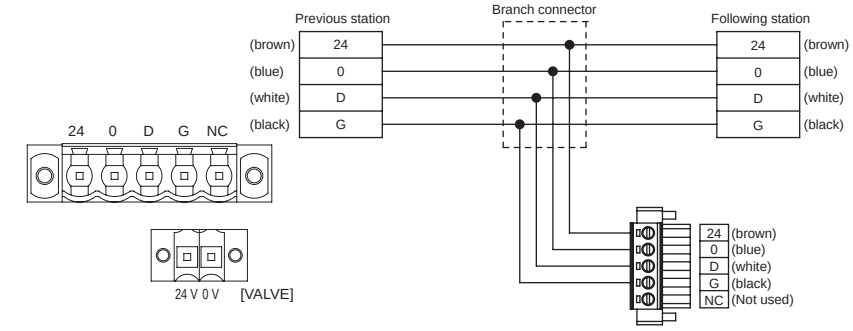
T7N1 T7N2

LED display



LED name	Display description
SEND	This indicates a synchronization signal from the S-LINK V controller with flashing.
VALVE	This stays ON when the valve power supply is energized (This works only when the unit power is ON).

Wiring method



- Power is connected to the 2-pole connector.
- S-LINK V cable is connected to the 5-pole connector.
- The wiring section connectors are enclosed.

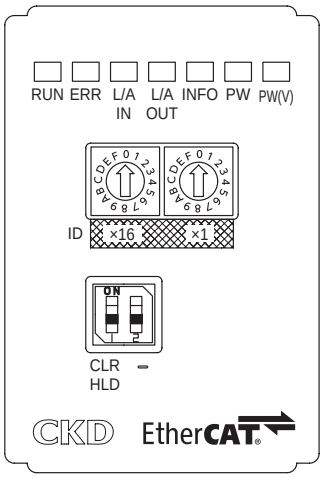
Note: Wiring connection connectors

The wiring connection connectors are enclosed with the product. However, if the connector fits the slave unit side connector listed below, it can be used.

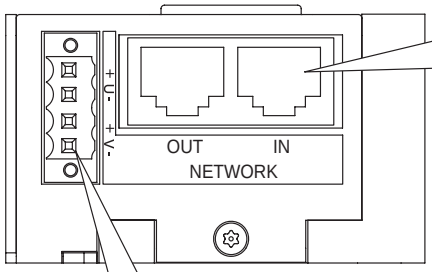
	Slave unit side connector model No.		Wiring side connector recommended model No. (attachment)	
	5-pole connector (communication)	2-pole connector (power supply)	5-pole connector (communication)	2-pole connector (power supply)
T7D (DeviceNet)	MSTB2.5/5-GF-5.08AU Phoenix Contact Corp.	SL3.5/2/90F Weidmuller Corp.	MSTB2.5/5-STF-5.08AUM Phoenix Contact Corp.	BL3.5/2F Weidmüller Corp.
T7G (CC-Link)	SL5.08HC/05/90F 3.2SN OR BX Weidmüller Corp.		BLZP5.08Hc/05/180F SN OR BX Weidmüller Corp.	
T7N (S-LINK V)				

Model No.	LED display	Wiring

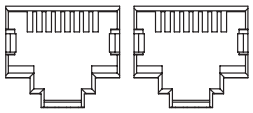
T7EC1 T7EC2



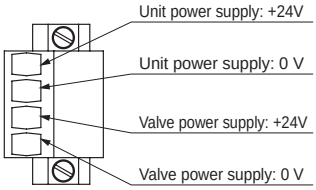
LED	Display description
RUN	Communication status of EtherCAT is indicated by the LED (green) state (OFF/ON/blinking)(Green lamp is ON during normal communication)
ERR	Abnormal status of EtherCAT is indicated by the LED (red) state (OFF/ON/blinking)(Lamp is OFF during normal communication)
L/A IN	Status of the Ethernet port (IN side) is indicated by the LED (green) state (OFF/ON/rapid blinking)
L/A OUT	Status of the Ethernet port (OUT side) is indicated by the LED (green) state (OFF/ON/rapid blinking)
INFO	Error status of the slave unit is indicated by the LED (red) (Lamp is OFF when normal)
PW	Lights when unit power is ON.Green lamp is ON when normal
PW(V)	Lights when valve power is ON.Green lamp is ON when normal (Cannot be monitored when the unit power is not turned ON)



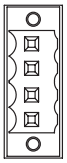
Slave unit side
・RJ45 2-port



Power supply plug (accessory)
・4-pole plug (female 14)
BL 3.50/04/180F SN OR BX
(1606660000)
Compatible wire diameter: 0.2 to 1.5mm2
16 to 24AWG
Allowable current: 8A



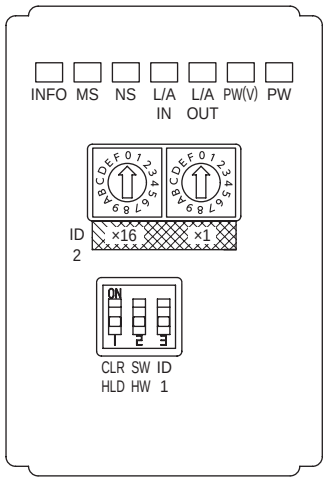
Power supply socket
・4-pole socket (male)
SL 3.50/04/90F 3.2SN OR BX
(1607060000)



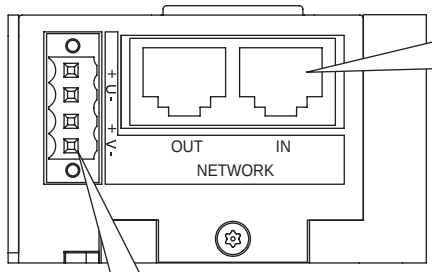
Communication connector pin array

Port	Pin	Comm	Function
IN/OUT	1	TD+	Transmitted data, positive
	2	TD-	Transmitted data, negative
	3	RD+	Received data, positive
	4	Vacant	
	5	Vacant	
	6	RD-	Received data, negative
	7	Vacant	
	8	Vacant	

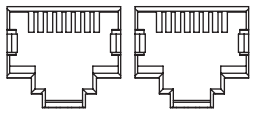
T7EN1 T7EN2



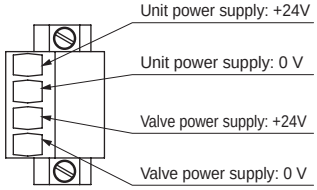
LED	Function	Display description	
INFO	Not used	–	–
MS	EtherNet/IP slave unit state display	green blinking green light red blinking red light	IP address not set state or setting communication Normal switch setting illegal slave unit body abnormality
NS	Communication state	green blinking green light red blinking red light	No link Link detection (normal communication) Communication error (timeout) address overlap
L/A IN	Ethetnet IN side link state	OFF green light Green ON/ yellow blinking	No link, no transmission/reception data No link detection, no transmission/reception data Link detection, transmitting and receiving data
L/A OUT	Ethetnet OUT side link state	OFF green light Green ON/ yellow blinking	No link, no transmission/reception data No link detection, no transmission/reception data Link detection, transmitting and receiving data
PW (V)	Valve power state	OFF green light	Valve power OFF Valve power ON
PW	Unit power supply state	OFF green light	Unit power OFF Unit power ON



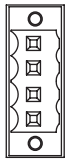
Slave unit side
・RJ45 2-port



Power supply plug (accessory)
・4-pole plug (female)
BL 3.50/04/180F SN OR BX
(1606660000)
Compatible wire diameter: 0.2 to 1.5mm2
16 to 24AWG
Allowable current: 8A



Power supply socket
・4-pole socket (male)
SL 3.50/04/90F 3.2SN OR BX
(1607060000)



Communication socket pin array

Port	Pin	Comm	Function
IN/OUT	1	TXD+	Transmitted data, positive
	2	TXD-	Transmitted data, negative
	3	RXD+	Received data, positive
	4	Vacant	
	5	Vacant	
	6	RXD-	Received data, negative
	7	Vacant	
	8	Vacant	

PLC compatibility table

Model No.	Manufacturer name (recommended organization)	Communication protocol	Host unit model No.
T6G1	CC-Link Partner Association (CLPA)	CC-Link	Connected to each manufacturer's CC-Link compatible master
	Mitsubishi Electric Corporation		QJ61BT11N
T7D*	ODVA	DeviceNet	Connected to each manufacturer's DeviceNet compatible master
	OMRON Corporation		CJ1W-DRM21
T7G*	CC-Link Partner Association (CLPA)	CC-Link	Connected to each manufacturer's CC-Link compatible master
	Mitsubishi Electric Corporation		QJ61BT11N
T7N*	Panasonic Industrial Devices SUNX Co., Ltd.	S-LINK V	Connected to S-LINK V controller or various S-LINK V control boards
T7EC*	EtherCAT Technology Group	EtherCAT	Connected to EtherCAT compatible master
	OMRON Corporation		NJ101 NJ301 NJ501 CJ1W-NC□82
T7EN*	ODVA	EtherNet/IP	

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

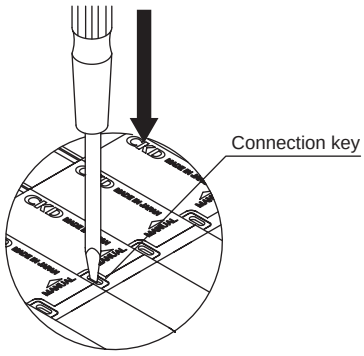
How to disassemble/assemble block manifold

CAUTION: Be sure to turn power OFF and release pressure before you add or remove a manifold.

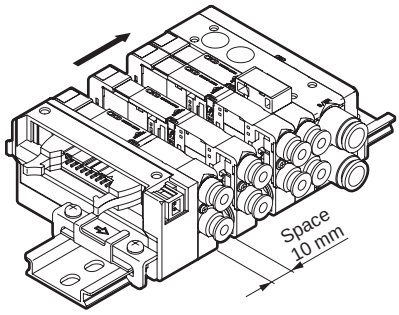
In the section below, the following procedures are explained: Changing the valve blocks, replacing the valve blocks due to service life, etc., adding the supply/exhaust blocks and changing/increasing the specifications using various pressure supply devices. Refer to the individual Instruction Manuals for details.
Turn OFF power and stop the air pressure source before starting disassembly. When the manifold has been disassembled and assembled, if the connection key is not correctly returned between the blocks or if the wiring and end block screws are insufficiently tightened, air could leak or malfunctions could result. Confirm that the connection keys are correctly returned between the blocks and that the blocks are securely fixed onto the DIN rail before supplying the air. CKD recommends using identification marking when disconnecting A and B port piping.

Replacing valve blocks and dummy blocks

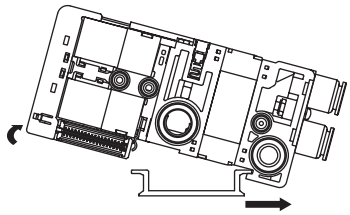
(1)Loosen the DIN rail set screw on the end block.
(2)Using a thin tool, press down on the key connecting the valve block to be replaced and the blocks on both sides.



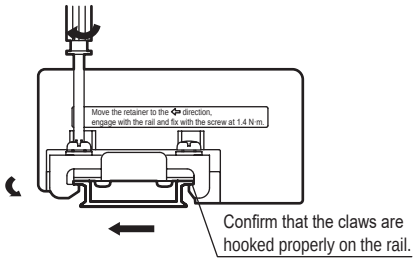
(3)Slide the block to the end block side, and provide a space of 10 mm on each side of the block to be replaced.
Take off the valve block moving parallel to the DIN rail.
⚠ Sliding it at an angle may damage the wiring connector.



(4)Lift up the block's wiring cover side, and pull toward the piping port side. The block will come off the DIN rail.



(5)Replace with a new block.
(6)Slide all of the blocks to the electrical block side so that there are no spaces between the blocks.
(7)Confirm that the connection key has returned to the groove on the block.
(8)Confirm that the end block's retainer claws are hooked on both sides of the DIN rail, and then tighten the set screw with a screwdriver. Correct tightening torque is 1.4 N·m.



Increasing the valve blocks

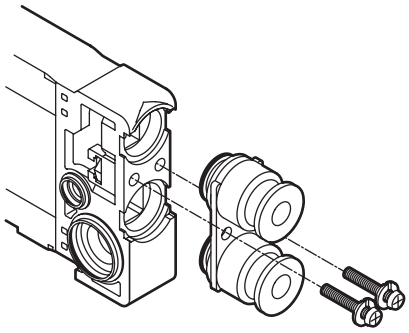
(1)The blocks are added with the same procedures as replacing the valve blocks.
(2)If you plant to add another one in the future, specify the DIN rail length in the specifications (page 410).

Mounting the supply/exhaust block

(1)The blocks are added with the same procedures as replacing the valve blocks.

Replacing the cartridge fitting

(1)Remove the set screw.
(2)Pull out the stopper plate with the fitting.
(3)Align the groove of the replacement fitting with the stopper plate and assemble them temporarily.
(4)Assemble the stopper plate with the fitting, and tighten the set screw. Pull on the fitting and confirm that it is installed correctly.



Tightening torque
Valve block: 0.22 ±0.02 N·m
Supply and exhaust block: 0.42 ±0.02 N·m

Checking after disassembly and assembly

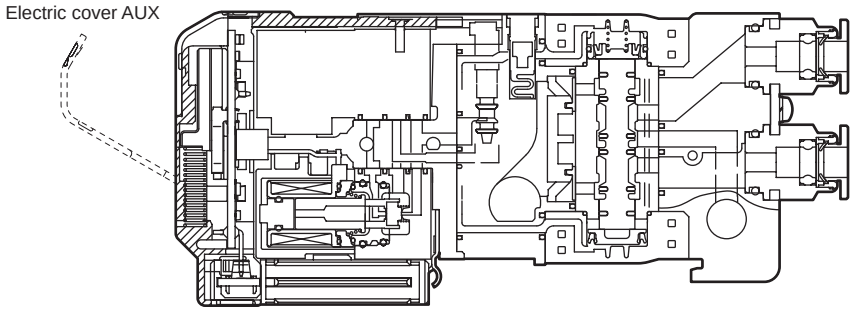
Check the piping and confirm that it is correct. Check that the port A and B piping is connected correctly.

Built-in individual power supply function (AUX)

The type with individual power supply function (AUX) allows a random valve in the manifold, which is already connected with reduced wiring, to be operated with a separate power supply. This is effective when adjusting the device, etc.

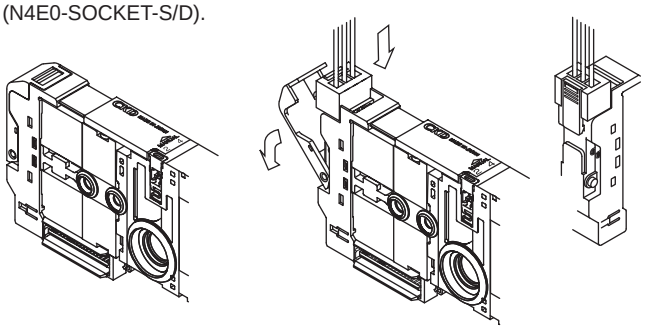
* MN3E0/MN4E0 only

(1) Valve block with individual power supply function (AUX) Internal structure diagram



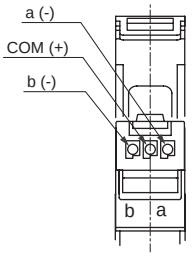
(2) Inputting the individual power supply

Open the wiring cover, and connect power input socket (N4E0-SOCKET-S/D).

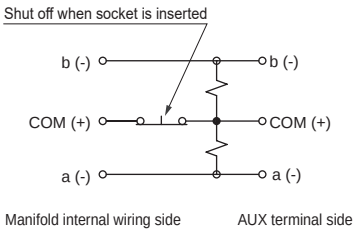


When the power input socket is connected, the wiring in the valve is temporarily separated from the reduced wiring in the manifold, and power can be supplied from an external source.

(3) AUX terminal structure and internal circuit diagram



Top of valve block with socket inserted



Outline of AUX terminal polarity and internal circuit

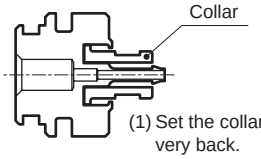
⚠ Safety precautions

Note 1: The polarity of the reduced wiring side and individual power supply side is **limited to the positive common**. The product does not work correctly if the polarity is incorrect.

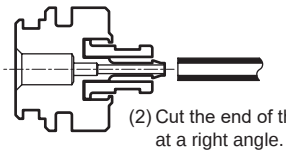
Note 2: **Use a separate power for the reduced wiring side and the individual power input side.** If the same power is used, the reduced wiring side's wiring will not be cut off, resulting in incorrect operations.

How to operate barbed fitting for ø1.8 fiber tube

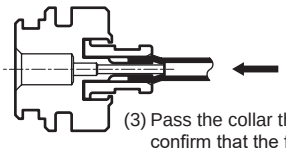
* MN3E0/MN4E0 only



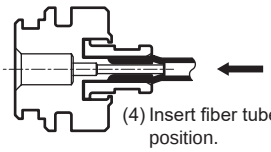
(1) Set the collar at the very back.



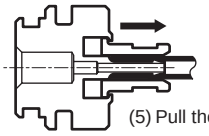
(2) Cut the end of the fiber tube at a right angle.



(3) Pass the collar through, and confirm that the fiber tube is correctly inserted while carrying out the work.



(4) Insert fiber tube to the last position.



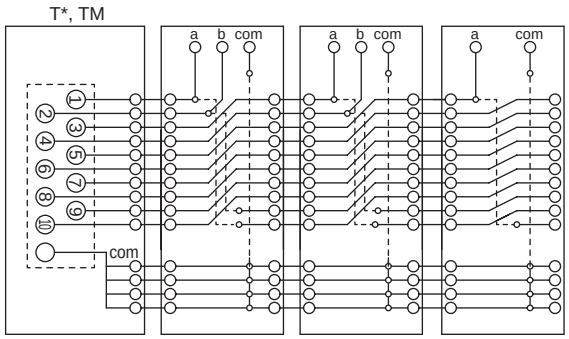
(5) Pull the collar forward to lock it.

Wiring structure between electrical block and valve block

A part called a dedicated wiring connector is incorporated in the valve block and supply/exhaust block, etc. This enables the wiring to be completed simultaneously with the disassembly and assembly of the block manifold. Special wiring work is not required during disassembly and assembly. The wiring structure pattern diagram is shown below.
There is regularity to the wiring block connector pin nos. and arranged valves. Refer to the section on the wiring method, and connect the wires between the valves and control device. Take special care when increasing or decreasing the number of valve blocks.

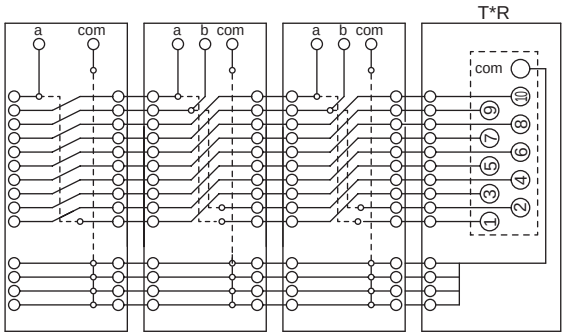
Only T* (left electrical block) or TM* (intermediate electrical block)

The blocks are arranged in the order of 1a, 1b, 2a and so forth from the valve block to the right of the electrical block with the port facing forward.



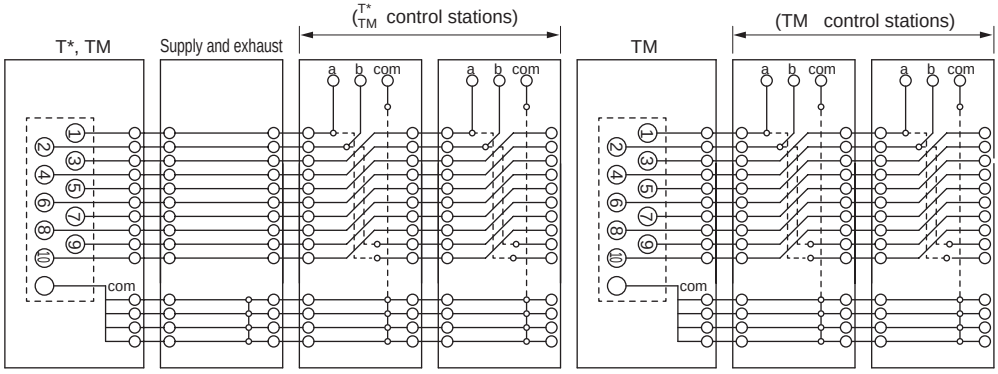
Only T*R (right electrical block)

The blocks are arranged in the order of 1a, 1b, 2a and so forth from the valve block to the left of the electrical block with the port facing forward.



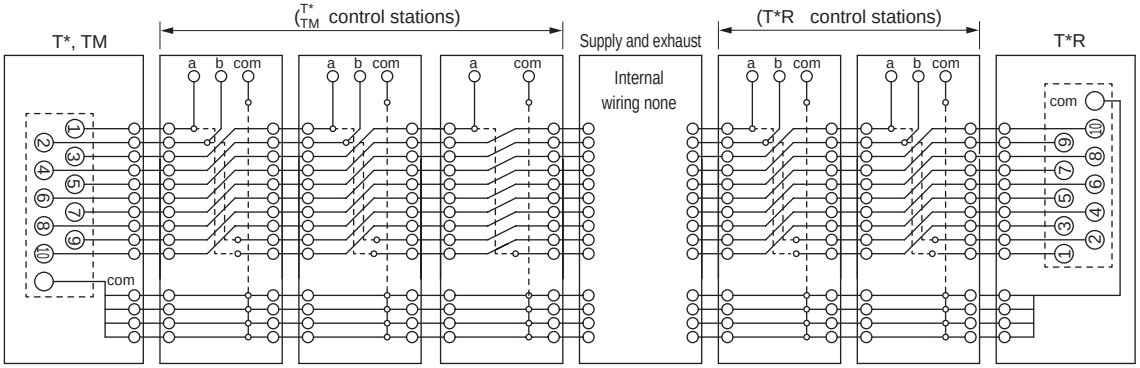
TX (mix) consisting of (T* (left wiring block) or TM* (intermediate wiring block)) + TM* (intermediate wiring block)

The blocks are arranged in the order of 1a, 1b, 2a, and so forth from the valve block on the right of the wiring block with the port facing forward. A wiring ends on the left of the intermediate wiring block.

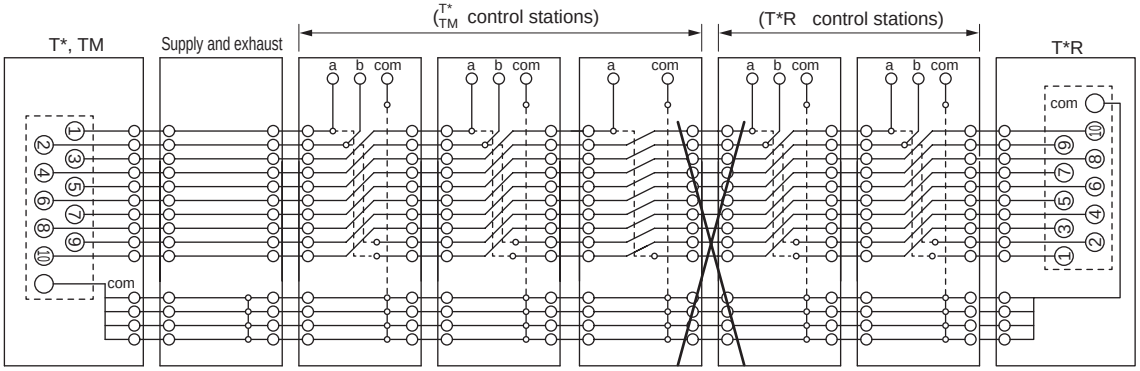


TX (mix) consisting of (T* (left wiring block) or TM* (intermediate wiring block)) + T*R (right wiring block)

1a, 1b, 2a and so forth layout starting from the left electrical block and 1a, 1b, 2a and so forth layout starting from right electrical block exist.
The circuit is shut off at the center with the supply/exhaust block N4E0-Q-*-C (type with no internal wiring circuit) to prevent the wires from interfering with each other.



Example of incorrect layout Left/right wires interfere at center
The left/right electrical block circuits could be connected via the manifold and result in unexpected valve operation.



How to fill out MN3E/MN4E Series manifold specification sheet

● Example of manifold model No. (To include a dummy block, select mix manifold and write the station No. including the number of dummy blocks.)

MN 4 E0 8 0 – CX – M – T50RD2 W F – 10 – 3 – P70

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Manual operating device Ⓔ Wiring method Ⓕ Terminal/ Connector pin array Ⓖ Option Ⓗ Station No. Ⓘ Voltage Clean room specification

(For the manifold model No., refer to pages 340, 342, 352 and 354.)

• Refer to the "Block configurations" (pages 364 to 372) and select the model No.
• Complete from the left end, with the piping port facing forward, regardless of the wiring block method.

Part name	Model No.	Layout position 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 26 27 28 29 30 31 32 33 34 35 36	Qty.
Electrical block	N4E0-T 50R		1
	N4E0-T		
Layout when including individual wiring		○ ○	2
Valve block 7 mm pitch	N E00 0-	Individual wiring	
	N E00 0-		
	N E00 0-	Station No. 10th station	
	N E00 0-		
Valve block 10 mm pitch	N 3 E0 1 0- C6	○ ○	2
	N 3 E0 1 0- C4	○ Station No. 1st station	1
	N 3 E0 2 0- C4	○ ○	2
	N 3 E0 3 0- C4	○ ○ ○	3
Dummy block	N4E0-MPS		
	N4E0-MPD	○ ○	2
Supply and exhaust block	N4E0-Q Z - 8 - S	○	1
	N4E0-Q-8	○	1
	N4E0-Q - - - -		
End block	N4E0-E L	○	1
	N4E0-E		
Mounting rail	L2= (Write an integer multiple of 12.5.)		

Accessories

Blank plug (for push-in fitting)										Silencer				Push-in fitting tube remover ☐ Not required (Put a check mark)
ø1.8		ø3		ø4		ø6		ø8		ø6		ø8		
ø 1.8 tube barbed threaded fitting (10 pieces in a set)														Cable with D sub-connector
N4E0-JOINT-PTN2-M3		N4E0-JOINT-PTN2-M5				N4E0-JOINT-PTN2-6								N4T-CABLE-D0 -
Socket assembly for power supply (for individual wiring, AUX)										Electrical block TM1 connector				
N4E0-SOCKET- -				3M0-SOCKET-SET						N4E0-TM-CONNECTOR				
N4E00-SOCKET- -				N4E00-SOCKET-SET										

Preparing the manifold specifications

● Complete from the left end, with the piping port facing forward, regardless of the electrical block method.
(Please include the model No. of the block selected from block configurations (pages 378 to 387) and instructions for the arrangement thereof.)
● Indicate the total number of blocks designated in the required quantity on the right of the table.
● Indicate the quantity for required accessories.
● Indicate the mounting rail length. (Only when requiring a length other than the standard length, write an integer multiple of 12.5.)

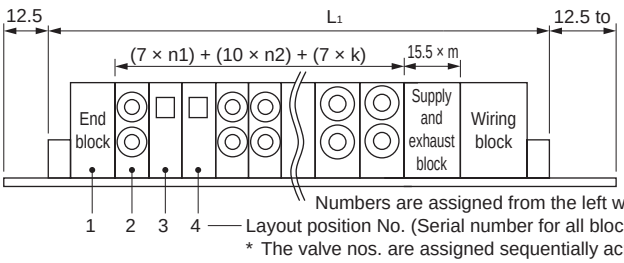
Obtaining the DIN rail length

Obtain the mounting rail length and pitch based on the manifold length (L_1) with the following calculation formula.
The rail length obtained here is the standard length, and does not need to be indicated in the specifications. Indicate the length in the specifications only if it is different from the standard length.

Manifold length L_1 = (7 × Valve block) + (10 × Valve block) + (7 × Dummy block)
+ (15.5 × Supply and exhaust block) + Electrical block (including end block) ..... Select from the right table.

Mounting rail length $L_2 = L_2' \times 12.5$

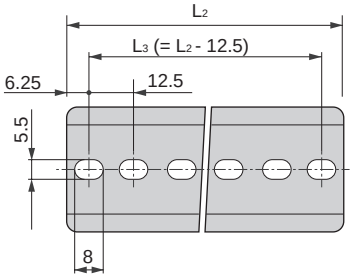
$L_2' = \frac{L_1 + 25}{12.5}$ → Round up the first decimal place. DIN rail mounting pitch $L_3 = L_2 - 12.5$



n1 : Number of 7 mm wide valve blocks
n2 : Number of 10 mm wide valve blocks
m : Number of supply and exhaust blocks
k : Number of dummy blocks

Electrical block width table

Electrical block		Dimensions (mm)
T30(N)/T30(N)R	Left or right electrical block	42.4
T5*/T5*R	Left or right electrical block	42.4
TM*	Intermediate electrical block	43.2
TM* × 2	Intermediate electrical block × 2 piece	55.2
TM* + T3*/T5*	Intermediate electrical block + left or right electrical block	54.4
T30/T5* + T30R/T5*R	Left wiring block + right electrical block	53.6
T6*	Serial transmission slave unit	115.6
T7*	Serial transmission slave unit (close contact)	73.1
T7EC*/T7EN*	Serial transmission slave unit (close contact)	86.6



MN3E/MN4E Series manifold specifications

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

Slip No. | Order No.

Issue date / /

Company

Contact

Order No.

● Manifold model No. (To include a dummy block, select mix manifold and write the station No. including the number of dummy blocks.)

7/10 mm pitch mix manifold

MN □ EX0 – □ – □ □ □ □ – □ – □ (For the manifold model No., refer to page 376.)

7 mm pitch manifold

MN □ E00 □ 0 – □ – □ □ □ □ – □ – □ (For the manifold model No., refer to pages 346 and 350.)

10 mm pitch manifold

MN □ E0 □ 0 – □ – □ □ □ □ – □ – □ (For the manifold model No., refer to pages 362 and 366.)

Ⓐ Model No. Ⓑ Solenoid position Ⓒ Port size Ⓓ Manual operating device Ⓔ Wiring method Ⓕ Terminal/Connector pin array Ⓖ Option Ⓗ Station No. Ⓘ Voltage -P70 Clean room specifications

• Refer to the "Block configurations" (pages 378 to 387) and select the model No.
• Complete from the left end, with the piping port facing forward, regardless of the wiring block method.

Part name	Model No.	Layout position 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	26	27	28	29	30	31	32	33	34	35	36	Qty.
Electrical block	**N4E0-T □**																																					
	N4E0-T □																																					
Layout when including individual wiring																																						
Valve block 7 mm pitch	**N □ E00 □ 0- □**																																					
	N □ E00 □ 0- □																																					
	N □ E00 □ 0- □																																					
	N □ E00 □ 0- □																																					
Valve block 10 mm pitch	**N □ E0 □ 0- □**																																					
	N □ E0 □ 0- □																																					
	N □ E0 □ 0- □																																					
	N □ E0 □ 0- □																																					
Dummy block	**N4E0-MPS**																																					
	N4E0-MPD																																					
Supply and exhaust block	**N4E0-Q □ - □ - □ - □**																																					
	N4E0-Q □ - □ - □ - □																																					
	N4E0-Q □ - □ - □ - □																																					
End block	**N4E0-E □**																																					
	N4E0-E □																																					

Mounting rail **L2= □** (Write an integer multiple of 12.5.)

Accessories

Blank plug (for push-in fitting)												Silencer				Push-in fitting tube remover ☐ Not required (Put a check mark)
ø1.8		ø3		ø4		ø6		ø8		ø6		ø8				

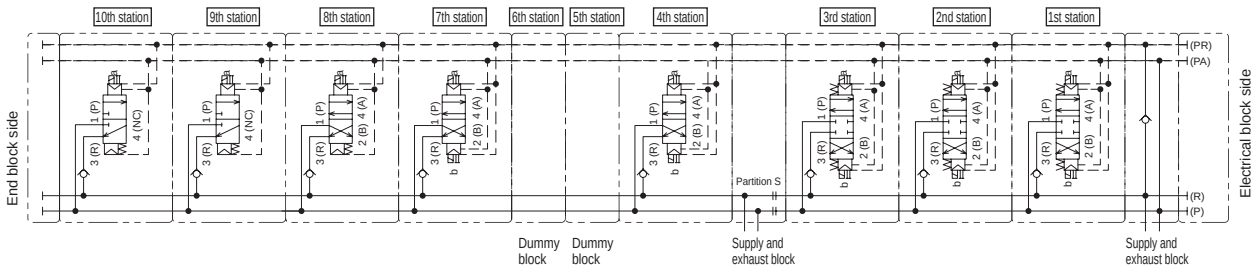
ø 1.8 tube barbed threaded fitting (10 pieces in a set)						Cable with D sub-connector
N4E0-JOINT-PTN2-M3		**N4E0-JOINT-PTN2-M5**		**N4E0-JOINT-PTN2-6**		**N4T-CABLE-D0 □ -** □

Socket assembly for power supply (for individual wiring, AUX)			Electrical block TM1 connector	
N4E0-SOCKET- □ - □		**3M0-SOCKET-SET**	**N4E0-TM-CONNECTOR**	
N4E00-SOCKET- □ - □		**N4E00-SOCKET-SET**		

* The max. number of inputs of individual wiring is 16 when the T** wiring method and individual wiring are combined. Individual wiring is not available for the TX wiring method.

References circuit diagram

The circuit diagram of the manifold model No. (example) on the previous page is shown as below for reference.



MEMO

Safety Precautions

Always read this section before use.
Refer to page 328 for general precautions for using valves.

Pilot operated 3, 4-port valve MN3E00/MN4E00/MN3E0/MN4E0 Series

Design & selection

1. Self reset

⚠WARNING

■ The self reset is available for the valve block solenoid position class.

There are two different self reset types: "differential pressure return" and "differential pressure spring return." For both types, the main valve returns to the original position (self-resets) when it is turned off under normal pressures. However, if the supply pressure is zero in the ON state,

• The "differential pressure return" holds the current position, and
• The "differential pressure spring return" will return to the original position with spring force.

Select the type based on the interlock specifications of the device in use.

Main valve hold/return states

Valve			Source pressure down when ON	→ Source pressure return	Power supply shutdown when ON
N3E00 N3E0	1/11	3-port valve single N.C./N.O. self reset (differential pressure spring return)	OFF (origin) movement	ON movement	OFF (origin) movement
	2/21	3-port valve double N.C./N.O. self hold	ON position holding		ON position holding
	66/67/76/77	Dual 3-port valve integrated N.C./N.O. self reset (differential pressure return)	ON position holding		OFF (origin) movement
	66S/67S/76S/77S	Dual 3-port valve integrated N.C./N.O. self reset (differential pressure spring return)	OFF (origin) movement	ON movement	OFF (origin) movement
N4E00 N4E0	1	4-port valve 2-position single solenoid self reset (differential pressure spring return)	OFF (origin) movement	ON movement	OFF (origin) movement
	2	4-port valve 2-position double self hold	ON position holding		ON position holding
	3/4/5 (N4E0 only)	4-port valve 3-position	OFF (origin) movement	ON movement	OFF (origin) movement

2. Check valve

⚠WARNING

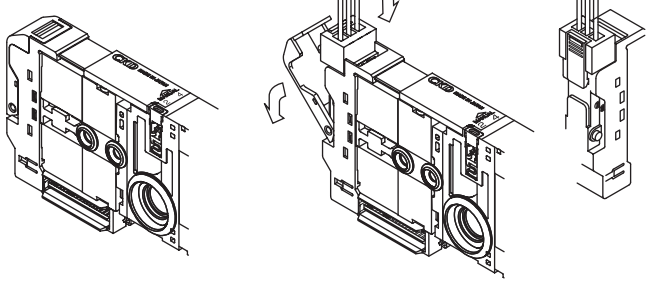
■ The check valve blocks the back pressure from adjacent air devices, etc. However, the structure does not allow the pressure seal to be held continuously, so do not use for other than the back pressure block.

3. Built-in individual power supply function (AUX)

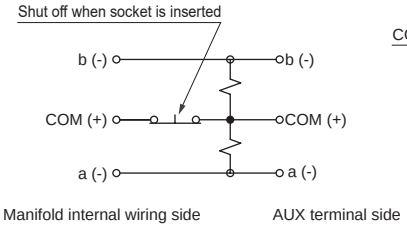
⚠WARNING

■ The polarity of the reduced wiring side and individual power supply side is **the positive common**.
Proper operation will not occur if the polarity is incorrect.
Use a different power supply for the reduced wiring side from the individual power input side.
If the same power supply is used, the reduced wiring side's wiring will not be cut off, resulting in incorrect operations.

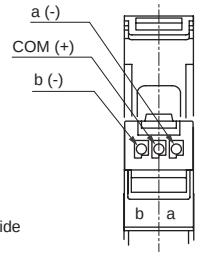
■ Inputting individual power
Open the wiring cover, and connect power input socket (N4E0-SOCKET-S/D).



When the power input socket is connected, the valve's internal wiring will be temporarily separated from the reduced wiring in the manifold, so power can be supplied from an external source.



Outline of AUX terminal polarity and internal circuit



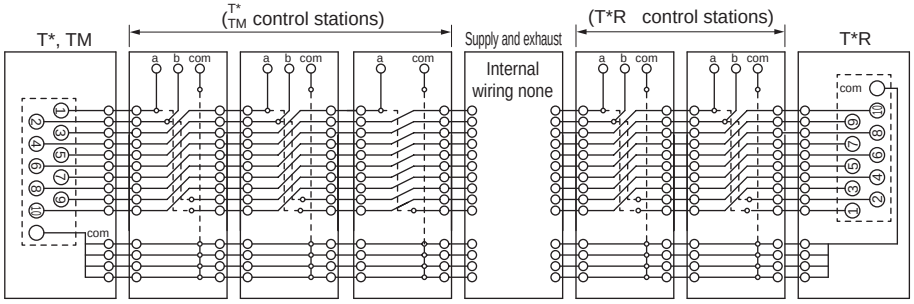
Valve block upper socket insertion diagram

Design & selection

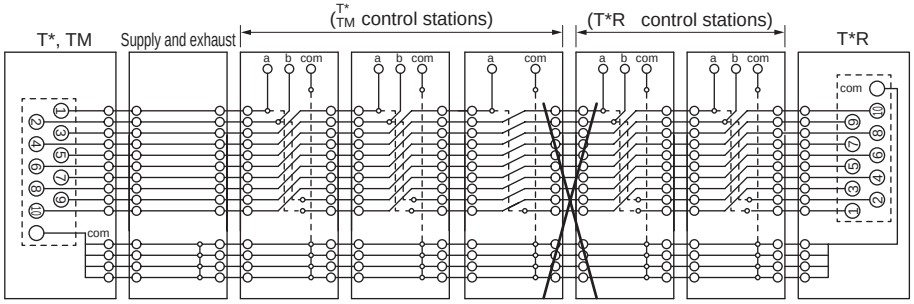
4. Wiring block mix

⚠WARNING

■ When using the mixed wiring block specifications by using T*R (right side specifications) for the wiring block, short-circuiting of the signal wires between the wiring blocks must be prevented. If left and right signals are connected, unintentional valve block operation will occur and equipment may be damaged.
Lay out the supply/exhaust block N4E0-Q*-C (specifications without internal wiring) between the valve supplied power from the left side and the right side.



Example of incorrect layout The left and right wirings interfere at the center.



5. Surge suppressor

⚠CAUTION

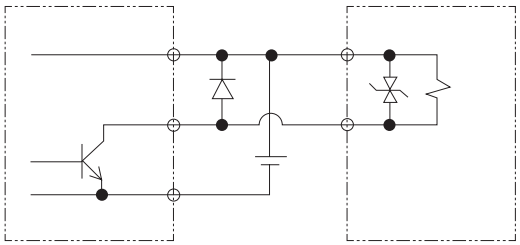
■ The surge suppressor attached to the solenoid valve is intended to protect the output contacts for the solenoid valve drive. There is no significant protection for the other peripheral devices, and devices could be damaged or could malfunction due to a surge. As well, surges generated by other devices 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.

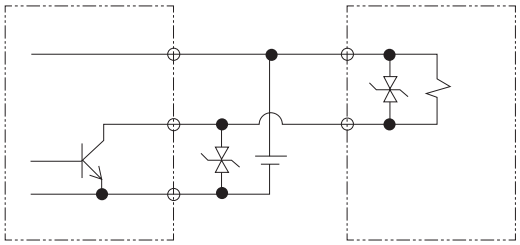
Voltage specification	Reverse voltage value when power turned OFF
12 VDC	Approx. 27 V
24 VDC	Approx. 47 V

(2) When using the NPN output unit, the voltage given in the left table and a surge voltage equivalent to the power supply voltage could be applied on the output transistor. Install the contact protection circuits in this case.

[Example of output transistor protective circuit mounting 1]



[Example of output transistor protective circuit mounting 2]



(3) When solenoid valves are connected in parallel with other components or solenoid valves, inverse voltage is applied to these components and/or solenoid valves when the solenoid valve is turned OFF. Even in the case of a solenoid valve with 24 VDC surge suppressor, a surge voltage may reach negative tens of volts for same models. This inverse polarity voltage may cause damage or malfunctions to other components connected in parallel. Avoid parallel connection of devices susceptible to inverse polarity voltages, e.g., LED indicator lamp. 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.

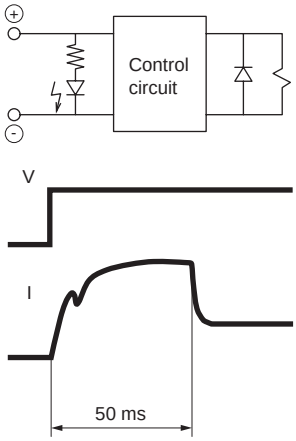
(4) The surge suppressor incorporated in the solenoid valve will often be short-circuited if it is damaged by overvoltage or overcurrent from other solenoid valves. Where there is a failed surge suppressor, if a large current flows when the output is ON, in the worst case scenario, the output circuit 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.

6. Low heat/energy saving circuit

⚠CAUTION

■ Do not use this valve in an environment where the vibration and impact exceed specifications. The valve could malfunction.

With the type with low heat, energy-saving circuit, the control circuit is built into the valve block. The current value when the coil is sucked and held is lowered with this structure. Only plus common polarity is used.



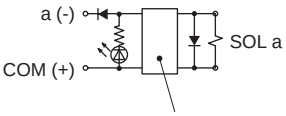
Individual specifications for low heat, energy saving circuit

Descriptions			Content	
			N4E00	N4E0
Energizing current A	Starting	24 VDC	0.017	0.025
		12 VDC	0.033	0.050
	Holding	24 VDC	0.009	0.013
		12 VDC	0.018	0.025
Power consumption W	Starting	24 VDC	0.4	0.6
		12 VDC		
	Holding	24 VDC	0.22	0.3
		12 VDC		

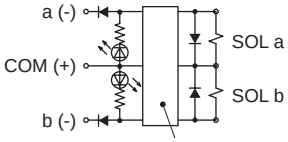
7. Polarity

⚠CAUTION

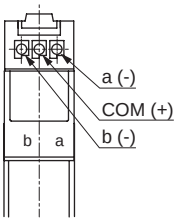
■ For the low heat, energy-saving circuit, connection is restricted to the positive common. Note the connection polarity. For details on surge suppressor, refer also to "5. Surge suppressor" on page 413.



Single, energy saving circuit integrated



Double, energy saving circuit integrated



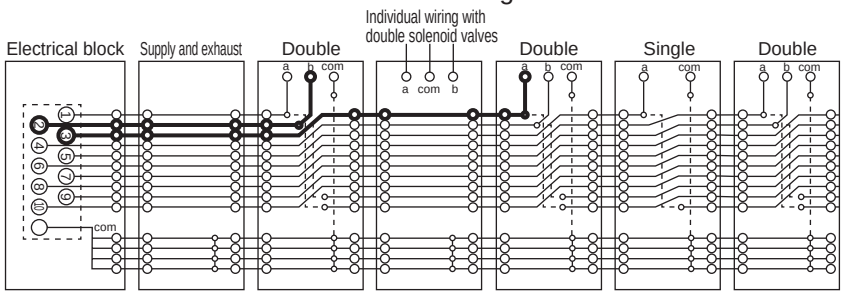
Upper view of valve block

■ The valve cannot be kept energized if instantaneous power outage of 30 ms or less occurs on the power source driving the solenoid valve. If instantaneous power outage of 30 ms or less occurs on the power source driving the solenoid valve due to a disturbance, cut the power off for 50 ms or longer to turn the solenoid valve on again.

8. Wiring in manifold when using with reduced wiring

⚠CAUTION

■ The internal circuit of the individual wiring valve block is completely separated from the reduced wiring electric circuit in the manifold. Even if the individual wiring valve block is inserted between the reduced wiring valve blocks, the pin layout on the electrical block side will not change.



The pin layout on the electrical block side eliminates the individual wiring in order from the first station, and shifts the blocks in order.

Mounting, Installation & adjustment

1. Manual operating device

⚠WARNING

■ The 4E Series is a pilot operated solenoid valve. The main valve does not switch over even if the manual override is operated unless air is supplied to the port P (port PA for external pilot).

■ Manual override protective cover is provided as standard. Since the manual override protective cover is closed when shipped, the manual override is protected and cannot be seen when delivered. Open the protective cover to operate the manual override. Note that the protective cover cannot be closed unless the locking manual override is released.

■ Manual override is used for both non-locking and locking. The lock is engaged by pressing down and turning the manual override. Press down first to lock. If it is turned without being pressed down, it could be damaged or air could leak.

2. External pilot piping port

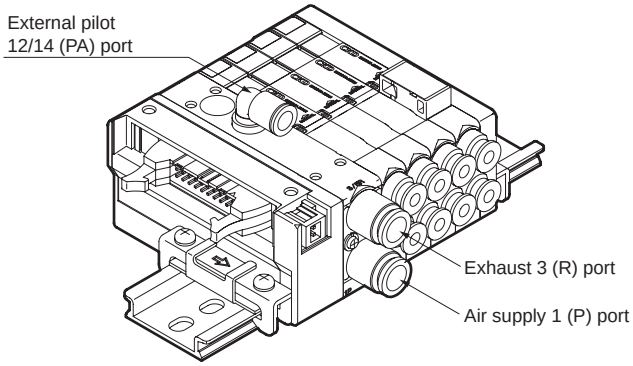
⚠CAUTION

■ The external pilot has a separate pilot air supply. The ø 6 push-in fitting is used to supply pilot air. Check that the piping connection is correct. Malfunction occurs if the piping connection is incorrect.

Port indication

Applications		Indication (ISO standards)
Pilot air	Pilot air supply port	12/14

* A/B ports and the R port cannot be pressurized.

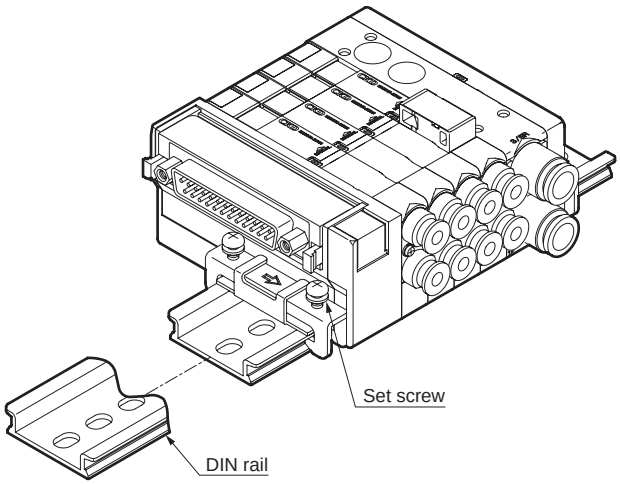


The external pilot air supply port is the ø 6 push-in fitting on the top of the supply/exhaust block.

3. How to install manifold

⚠CAUTION

■ The 4E Series is dedicated for mounting on the DIN rail. The manifold could drop off or be damaged if not installed correctly. If the manifold weighs more than 1 kg or if it is used in an environment with vibration or impact, secure the DIN rail onto the surface at 50 to 100 mm intervals. Be sure to check the mounting before starting operation. Use the specifications to calculate the weight. Also calculate the weight of the other devices installed. (Refer to pages 345 and 361 for weight.)



4. Lead wire connection

■ The following lead wire is used in the socket of individual wiring valve blocks and type with individual power supply function (AUX) of 4E Series.

Conductor size	Outer diameter of insulator
AWG#26	1.32

When you wire the installed manifold, check that tension is not applied to the lead wire.

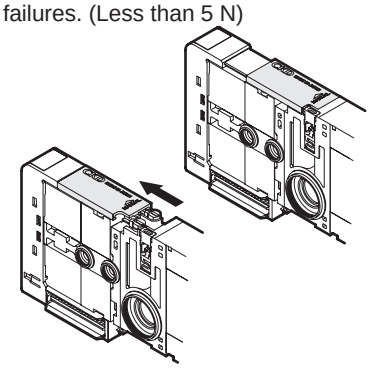
Use & maintenance

1. Manual override

⚠WARNING

■ Opening and closing the manual protective cover

Do not apply excessive force onto the manual protective cover when you open or close it. Excessive external force may cause failures. (Less than 5 N)

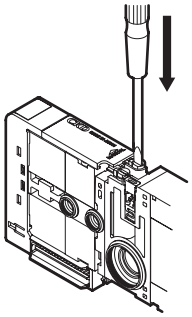


Slide type

■ How to operate manual override

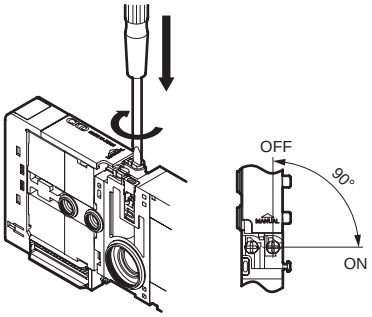
(1) Push & non-locking operation

Push in the direction of the arrow until it stops.
The manual operating device is unlocked when released.



(2) Push & locking operation

Turn it 90 degrees in the direction indicated by an arrow while pressing it. The manual function is not canceled even when it is released.



WARNING

When conducting manual operations, make sure that there are no people near the moving cylinder.

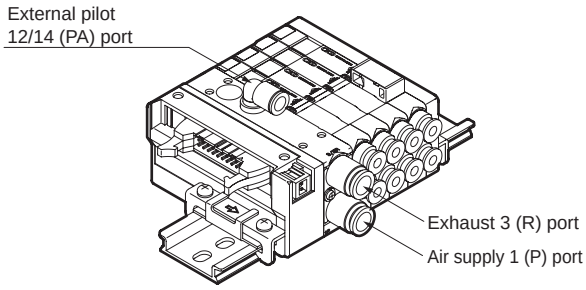
2. External pilot piping port

⚠CAUTION

■ Note supply pressure for dual 3-port valve integrated.

The valving element of dual 3-port valve integrated is operated with the main (P port) supply pressure.

- Check that the main pressure (P port) is not higher than the pilot pressure (PA port).
- Check that the main pressure (P port) does not drop below 0.2 MPa.

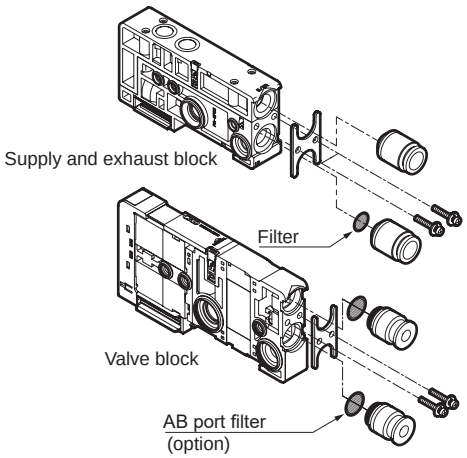


3. Port filter

⚠CAUTION

■ The port filter prevents foreign matters from entering it, to prevent potential manifold problems (mesh hole ø 0.3 mm). This does not improve the quality of compressed air. Read "Warnings and Precautions" in Introduction, before you mount, install, and adjust it. Do not take off the port filter or push it in by force. The filter may be deformed leading to a problem.

If contaminants and foreign materials are found on the filter surface, blow lightly, or remove them by tweezers, etc.



4. Pneumatic pressure source

⚠CAUTION

■ As this product is non-lubrication, adding oil may cause the grease which is initially sealed in to leak out. This may prevent the product from working at its maximum performance.