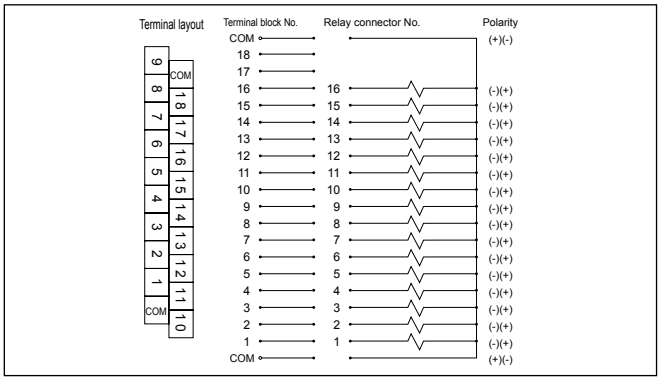
Common terminal box (wiring method T10)

Notes on wiring

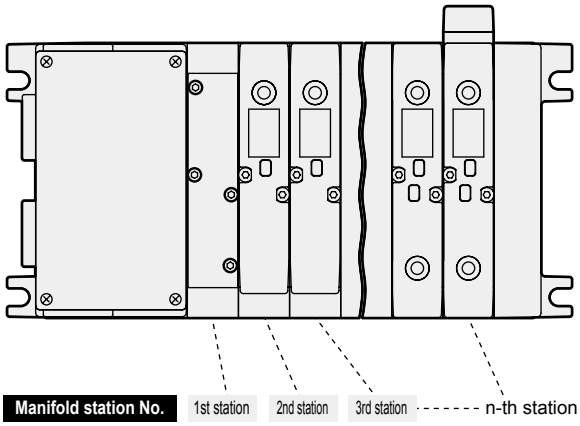
[Precautions for common terminal box (T10)]

(1) With the common terminal box, the common wiring is internal processed beforehand. When using the independent contact PLC output unit, wire the common wires at the contact section.
(2) Check the correspondence of the number of stations with solenoid positions to prevent incorrect wiring. (Refer to the table below.)
(3) Note that the correspondence will not function if the number of solenoid stations exceeds 16.
(4) The manifold station numbers are set in order from left with the piping port facing forward.
(5) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

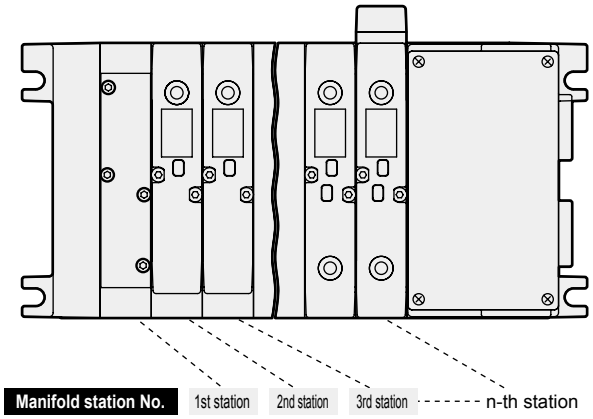
Internal wiring of wiring method T10 (up to 16 solenoid stations)



T10 (left side specifications)



T10R (right side specifications)



Terminal array of wiring method T10 (example)

*: The numerals of valve numbers 1a, 1b, 2a, 2b ... indicate the order of stations first station, second station... and the letters “a” and “b” indicate the “a side” solenoid and “b side” solenoid, respectively.
The manifold's max. station number differs depending on the model.
Check the specifications of each model.

Terminal No.

COM	18	17	16	15	14	13	12	11	10
9	8	7	6	5	4	3	2	1	COM

● For single solenoid valve

[Standard wiring]

(MF station No. max. 16 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	16a	15a	14a	13a	12a	11a	10a
Term. block No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	9a	8a	7a	6a	5a	4a	3a	2a	1a	COM

[Double wiring]

(MF station No. max. 8 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	(Blank)	8a	(Blank)	7a	(Blank)	6a	(Blank)
Term. block No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	5a	(Blank)	4a	(Blank)	3a	(Blank)	2a	(Blank)	1a	COM

● For double solenoid valve

(MF station No. max. 8 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	8b	8a	7b	7a	6b	6a	5b
Term. block No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

(MF station No. max. 8 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	8b	8a	7b	7a	6b	6a	5b
Term. block No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

● For mixed use (single/double mixture)

(Number of solenoid valves up to 16 points)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	(Blank)	(Blank)	9b	9a	8b	8a	7b
Term. block No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	7a	6a	5b	5a	4b	4a	3a	2a	1a	COM

(Number of solenoid valves up to 16 points)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	8b	8a	7b	7a	(Blank)	6a	5b
Term. block No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	5a	4b	4a	(Blank)	3a	(Blank)	2a	(Blank)	1a	COM

D sub-connector (Wiring method T30) (custom order)

Notes on wiring

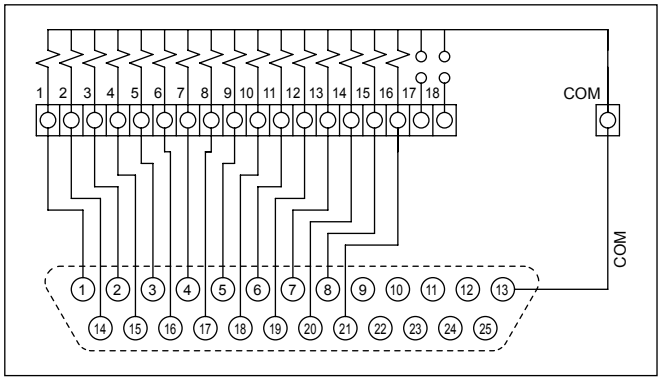
[T30 Connectors]

The connector 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. The manifold station numbers are set in order from left with the piping port facing forward.

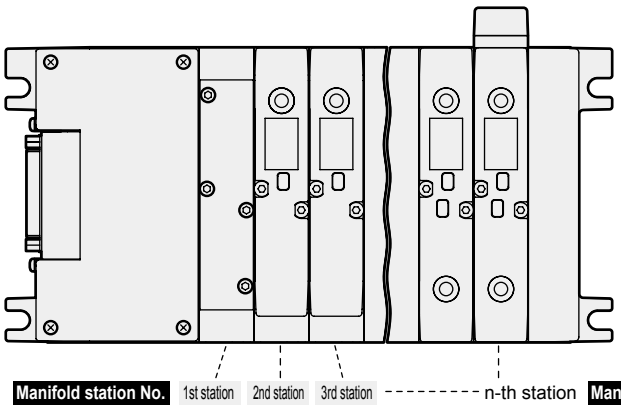
[Precautions for connector T30]

(1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
(2) The correspondence will not function if the number of solenoid stations exceeds 16. Please be aware of this.
(3) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

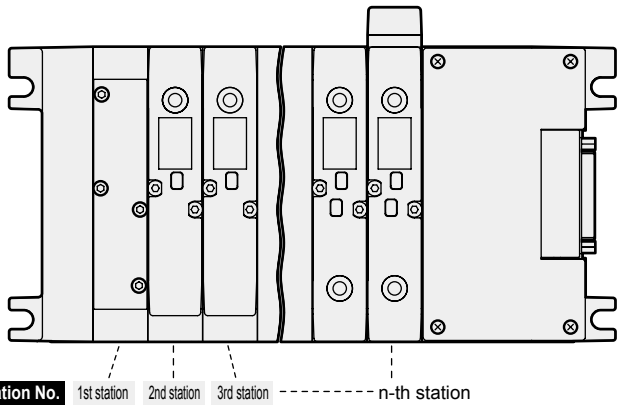
Internal wiring of wiring method T30 (up to 16 solenoid stations)



T30 (left side specifications)



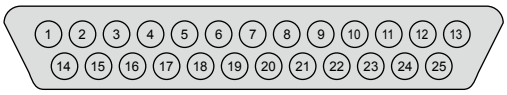
T30R (right side specifications)



T30 connector pin array (example)

*: The numerals of valve numbers 1a, 1b, 2a, 2b ... indicate the order of stations first station, second station... and the letters “a” and “b” indicate the “a side” solenoid and “b side” solenoid, respectively. The manifold's max. station number differs depending on the model.
Check the specifications of each model.

Connector pin No.



[Standard wiring]

● For single solenoid valve (MF max. station number of 16 stations)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	5a	7a	9a	11a	13a	15a	(Blank)	(Blank)	(Blank)	(Blank)	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	(Blank)	(Blank)	(Blank)	(Blank)	

● For double solenoid valve (MF max. station number of 8 stations)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	(Blank)	(Blank)	(Blank)	(Blank)	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	(Blank)	(Blank)	(Blank)	(Blank)	

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

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	3a	4a	5a	7a	8a	10a	11b	(Blank)	(Blank)	(Blank)	(Blank)	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	(Blank)	(Blank)	(Blank)	(Blank)	

[Double wiring]

● For single solenoid valve (MF max. station number of 8 stations)

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

● For double solenoid valve (MF max. station number of 8 stations)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13
Valve No.	1a	2a	3a	4a	5a	6a	7a	8a	(Blank)	(Blank)	(Blank)	(Blank)	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	(Blank)	(Blank)	(Blank)	(Blank)	

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

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

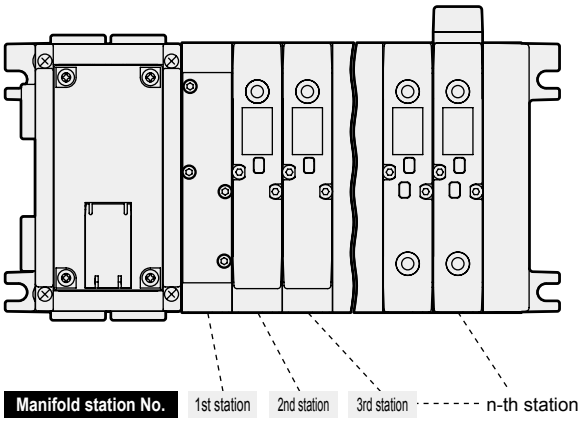
Serial transmission (Wiring method T6*)

Notes on wiring

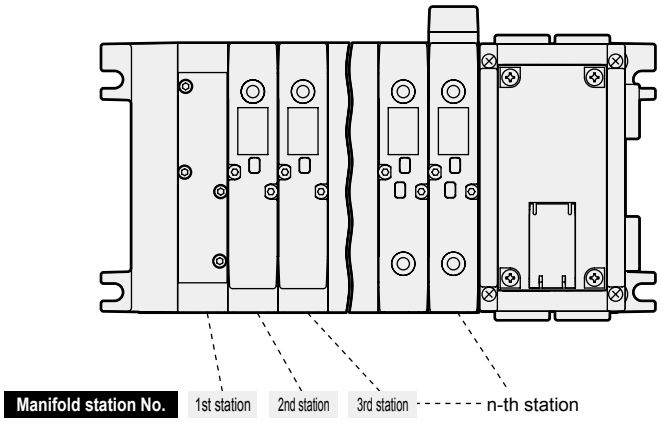
[Serial transmission (T6*)]

(1) The slave unit's output No. differs with the manufacturer. The manifold internal connector pin No. and the manifold solenoid correspond as shown below.
(2) Internal connectors are wired in order, so there may be some blank numbers depending on the number of manifold stations. These blank outputs cannot be used to drive other than the solenoid manifold in use.
(3) The working power is 24 VDC.
(4) A slave unit for each communication system is used.
For usable PLC models, host unit model numbers and communication system specifications, refer to technical data on page 1057.
(5) Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.
(6) For information regarding the PLC, please contact the corresponding PLC manufacturer.

T6* (left side specifications)



T6*R (right side specifications)



Correspondence of connector pin No. and solenoid valve

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

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

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

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

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

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

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

Correspondence of slave unit output No. and connector pin No.

● T6A1, T6D1, T6J1, T6G1, T6C1

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

PLC compatibility table

Model No.	Manufacturer name (recommended organization)	Communication system name	Host unit model No.
T7EC*	EtherCAT Technology Group	EtherCAT	Connected to each ETG manufacturer's EtherCAT compatible master
	OMRON Corporation		OMRON Corporation NJ301 NJ501
T6A1	KURODA Pneumatics Ltd.	UNIWIRE SYSTEM	Connected to sending unit or various UNIWIRE system interfaces
T6C1	OMRON Corporation	CompoBus/S (T6C0/1 does not support long-distance mode)	CJ1W-SRM21 CS1W-SRM21 C200HW-SRM21-V1 CQM1-SRM21-V1
T6D1	ODVA	DeviceNet	Connected to each manufacturer's DeviceNet compatible master
	OMRON Corporation		CJ1W-DRM21 CS1W-RDM21-V1 C200HW-DRM21-V1 CVM1-DRM21-V1
T6G1	CC-Link Partner Association (CLPA)	CC-Link	Connected to each manufacturer's CC-Link compatible master
	Mitsubishi Electric Corporation		QJ61BT11N A1SJ61QBT11 A1SJ61BT11
T6J1	CKD Corporation	UNIWIRE H SYSTEM	Connected to sending unit (UW-SDW-H2) or various UNIWIRE H SYSTEM interfaces
	KURODA Pneumatics Ltd.		

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

Wiring structure between wiring block and valve block (DC specifications)

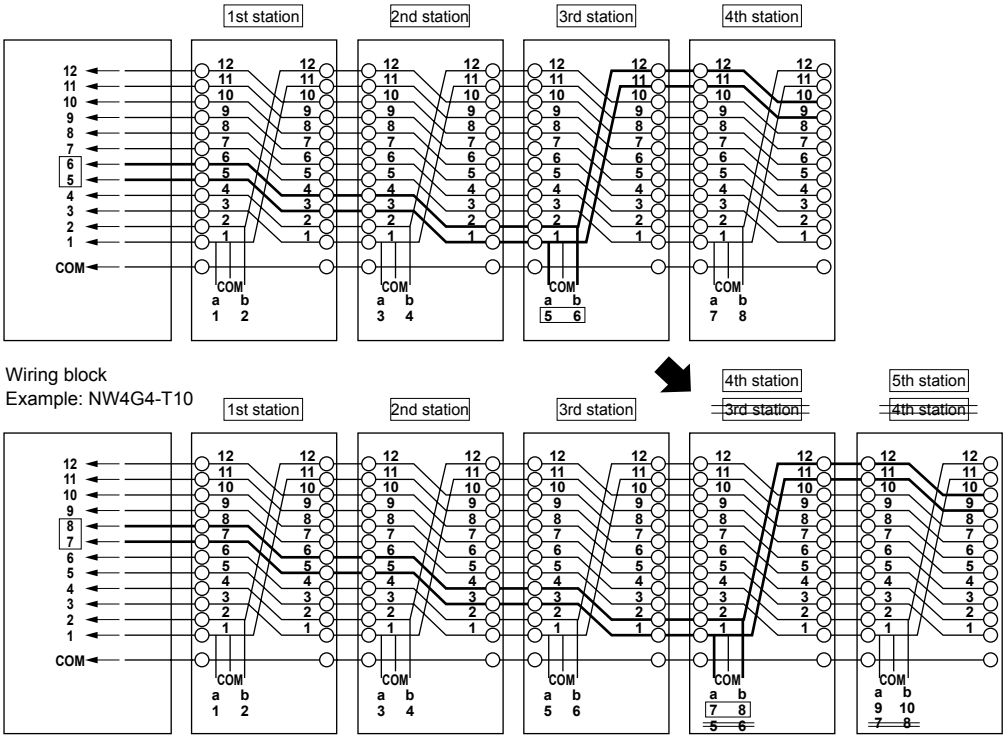
A part called a dedicated wiring connector is built into the valve block and supply and exhaust block, etc., This structure enables the wiring to be completed simultaneously with the disassembly and assembly of the block manifold. Special wiring work is not required during disassembly and assembly. There is regularity to the wiring block connector pin numbers and wired valves. Refer to the section on the wiring method of each wiring block, and connect the wires between the valves and control device. Take special care when increasing or decreasing the number of valve blocks. In addition, an example of the wiring circuit when expanding stations is shown below.

Example of wiring circuit

The diagram below shows the wiring circuit for MW4G4 and differs from the actual specifications.

Double wiring

When one station of a valve block has been expanded between the 2nd and 3rd station, the output that had been assigned to terminal block No. 5 and No. 6 of the wiring block will automatically shift for two solenoids and be assigned to terminal block No. 7 and No. 8.



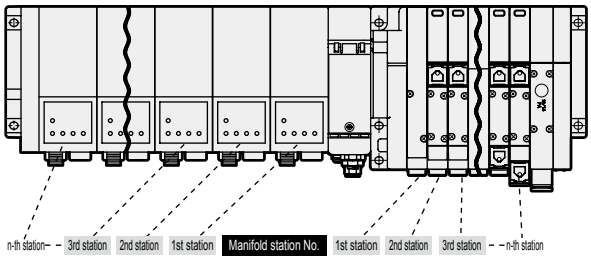
Standard wiring

Similar to double wiring, the terminal block numbers will shift assignments. However, how they shift will depend on the solenoid valve. With types having one solenoid valve (2-position single), they shift for one valve position. With types having two solenoid valves (2-position double / 3-position), they shift for two valve positions.

MEMO

Serial transmission: Wiring method

T7* serial transmission



- Refer to the table below, as slave unit I/O numbers differ according to PLC manufacturer.
- The slave unit I/O numbers correspond to the manifold solenoids and I/O block as shown below.
- Station manifolds are set in order from the left with the piping port facing forward regardless of the wiring block position.
- The I/O block station numbers are configured in order from the serial transmission slave unit side. When input blocks and output blocks are mixed, the input blocks will be placed first on the slave unit side upon configuration.
- When there are input configurations, it is possible to connect with sensors by using the input block.
- When the number of solenoid points is less than the output points, it is possible to connect with external equipment by using the output block.
- The working power is 24 VDC.
- A slave unit for each communication system is used. Contact CKD for usable PLC models, host unit model numbers and communication system specifications. (Refer to page 1057)
- Securely tighten each connector (power/communication). After completing the address settings, etc., close and securely tighten the switch cover. (Proper tightening torque 0.3 N·m)

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

For 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
Output dedicated	EtherCAT	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
I/O mixed	EtherCAT	X00	X01	X02	X03	X04	X05	X06	X07	X08	X09	X0A	X0B	X0C	X0D	X0E	X0F	Y00	Y01	Y02	Y03	Y04	Y05	Y06	Y07	Y08	Y09	Y0A	Y0B	Y0C	Y0D	Y0E	Y0F

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
Output dedicated	EtherCAT	Y000	Y001	Y002	Y003	Y004	Y005	Y006	Y007	Y008	Y009	Y010	Y011	Y012	Y013	Y014	Y015	Y100	Y101	Y102	Y103	Y104	Y105	Y106	Y107	Y108	Y109	Y110	Y111	Y112	Y113	Y114	Y115
I/O mixed	EtherCAT	X000	X001	X002	X003	X004	X005	X006	X007	X008	X009	X010	X011	X012	X013	X014	X015	Y000	Y001	Y002	Y003	Y004	Y005	Y006	Y007	Y008	Y009	Y010	Y011	Y012	Y013	Y014	Y015

I/O numbers corresponding to I/O No. of wiring method T7*

Slave unit	Max. No. of inputs: Number of input blocks	Max. output points: Number of output blocks	Max. output points: Number of valve SOL points	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
· T7EC1 · T7ECP1	-	-	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16																
· T7EC2 · T7ECP2	-	-	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
· T7ECB7 · T7ECPB7	1 block (4 points)	-	16 points	1-0	1-1	1-2	1-3													s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit	12 points	1-0	1-1	1-2	1-3													s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	2-0	2-1	2-2	2-3
		2 units	8 points	1-0	1-1	1-2	1-3													s1	s2	s3	s4	s5	s6	s7	s8	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3
	2 blocks (8 points)	-	16 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3									s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit	12 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3									s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	3-0	3-1	3-2	3-3
		2 units	8 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3									s1	s2	s3	s4	s5	s6	s7	s8	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3
	3 blocks (12 points)	-	16 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3					s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit	12 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3					s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	4-0	4-1	4-2	4-3
		2 units	8 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3					s1	s2	s3	s4	s5	s6	s7	s8	4-0	4-1	4-2	4-3	5-0	5-1	5-2	5-3
	4 blocks (16 points)	-	16 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16
		1 unit	12 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	5-0	5-1	5-2	5-3
		2 units	8 points	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3	3-0	3-1	3-2	3-3	4-0	4-1	4-2	4-3	s1	s2	s3	s4	s5	s6	s7	s8	5-0	5-1	5-2	5-3	6-0	6-1	6-2	6-3

: Valve SOL output

: Output block

: Input block

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

* The numerals of valve numbers 1a, 1b, 2a, 2b ... indicate the order of stations first station, second station... and the letters “a” and “b” indicate the “a side” solenoid and “b side” solenoid, respectively. The manifold’s max. station number differs depending on the model. Check the specifications of each model.

[Standard wiring] ● For single solenoid valve (Max. 16 stations)

Solenoid 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 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 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

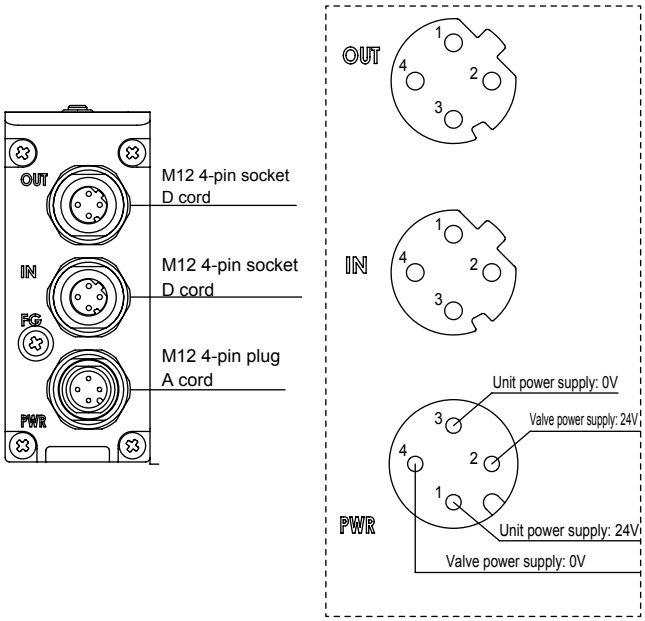
Solenoid output No.	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	s21	s22	s23	s24	s25	s26	s27	s28	s29	s30	s31	s32
Valve No.	1a	(Blank)	2a	(Blank)	3a	(Blank)	4a	(Blank)	5a	(Blank)	6a	(Blank)	7a	(Blank)	8a	(Blank)	9a	(Blank)	10a	(Blank)	11a	(Blank)	12a	(Blank)	13a	(Blank)	14a	(Blank)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

● For double solenoid valve

Solenoid 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)

Solenoid 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	(Blank)	2a	(Blank)	3a	3b	4a	4b	5a	(Blank)	6a	(Blank)	7a	7b	8a	(Blank)	9a	(Blank)	10a	(Blank)	11a	11b	12a	12b	13a	(Blank)	14a	(Blank)	15a	15b	16a	(Blank)

Model No.	LED display	Wiring method
T7EC*	RUN ☐ ERR ☐ L/A IN ☐ L/A OUT ☐ INFO ☐ PW ☐ PW(V) ☐	

LED name	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) (OFF during normal communication)
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)

Communication connector pin array

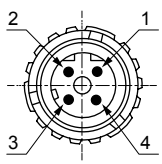
M12 pins		Signal name	Function
OUT	1	TD+	Transmitted data, positive
	2	RD+	Received data, positive
	3	TD-	Transmitted data, negative
	4	RD-	Received data, negative
IN	1	TD+	Transmitted data, positive
	2	RD+	Received data, positive
	3	TD-	Transmitted data, negative
	4	RD-	Received data, negative

- The unit power supply (communication power supply) and the valve power supply are separate power supplies.
  Supply power from the power supply connector (24 VDC). (Use M12 connector)
- Connect the EtherCAT cable to the communication connector (IN).
  (use M12 connector)
- Prepare a connector to be used on the wiring end.

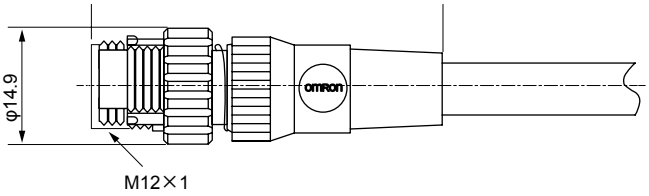
Waterproof connector

For EtherCAT

● For EtherCAT connector



(Plug)



M12×1

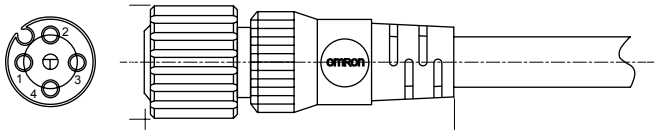
Pin No.	Signal name	Function
1	TD+	Transmitted data, positive
2	RD+	Received data, positive
3	TD-	Transmitted data, negative
4	RD-	Received data, negative

For wiring method, refer to the following communication connector pin layout and communication cable wiring example.
Use CAT5 or higher for communication cable lines.

Recommended M12-RJ45 communication cable with connector
- · Type XS5W-T421-□MC-K Straight OMRON
- · No. 0945 700 50□□ Straight HARTING

Recommended communication plug and cable
- · No. 0945 600 01□□ Cable single unit HARTING
- · No. 2103, 281, 1405 Assembly M12 connector HARTING
- · No. 0945, 151, 1100 Assembly RJ-45 connector HARTING

● Connector for power supply



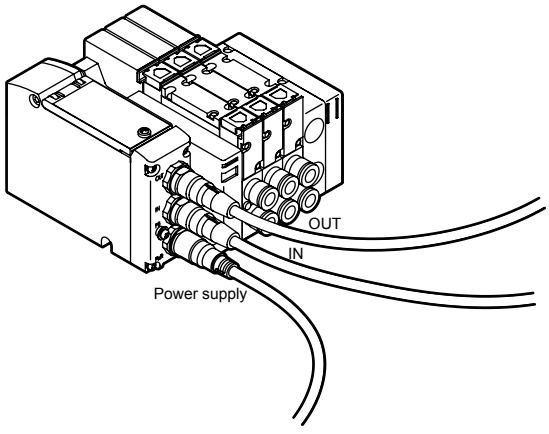
Pin No.	Content
1	Unit power supply + side (24 VDC)
2	Valve power supply + side
3	Unit power supply - side (0 V)
4	Valve power supply - side

Recommended M12 loose wire power cable
- ·Type XS2F-D421-□8□-□ Straight OMRON

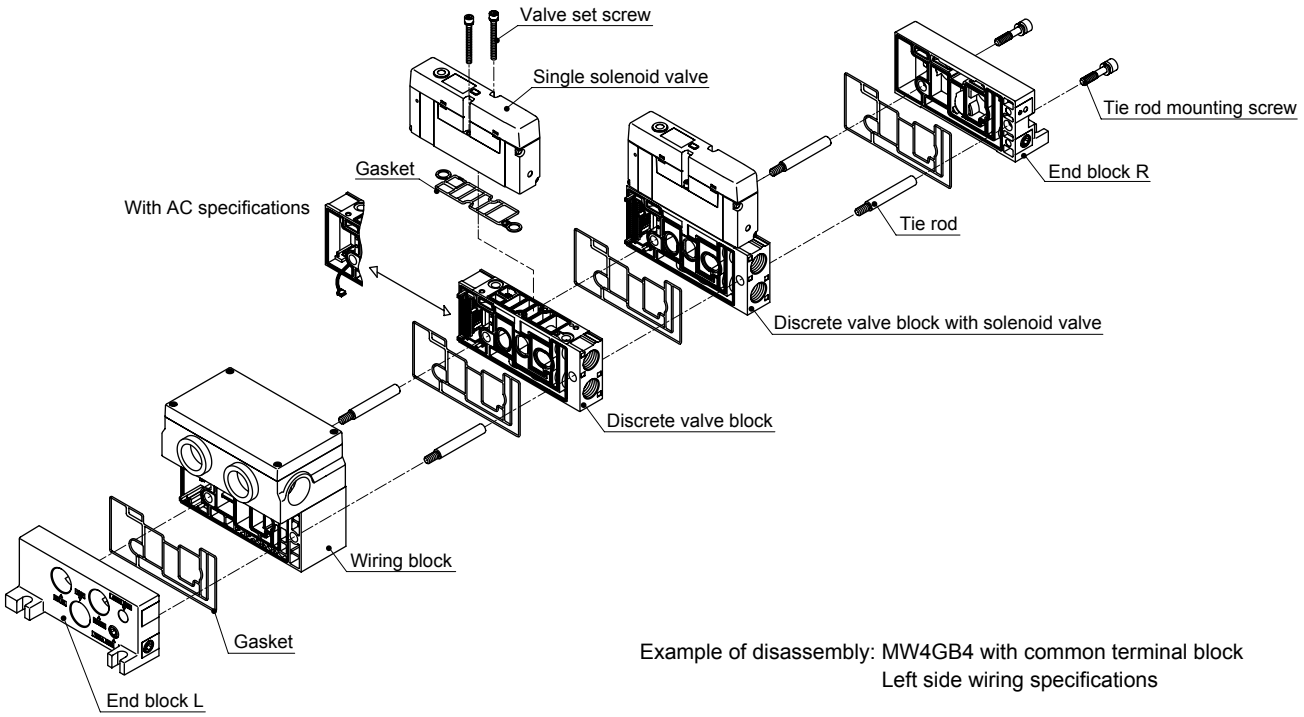
Recommended communication plug and power cable
- · No. 2103 212 2305 Assembly M12 connector HARTING
- ·Electric wire size: AWG22-18, Applicable cable diameter: φ6 to 8

* □ differs depending on the cable specifications.

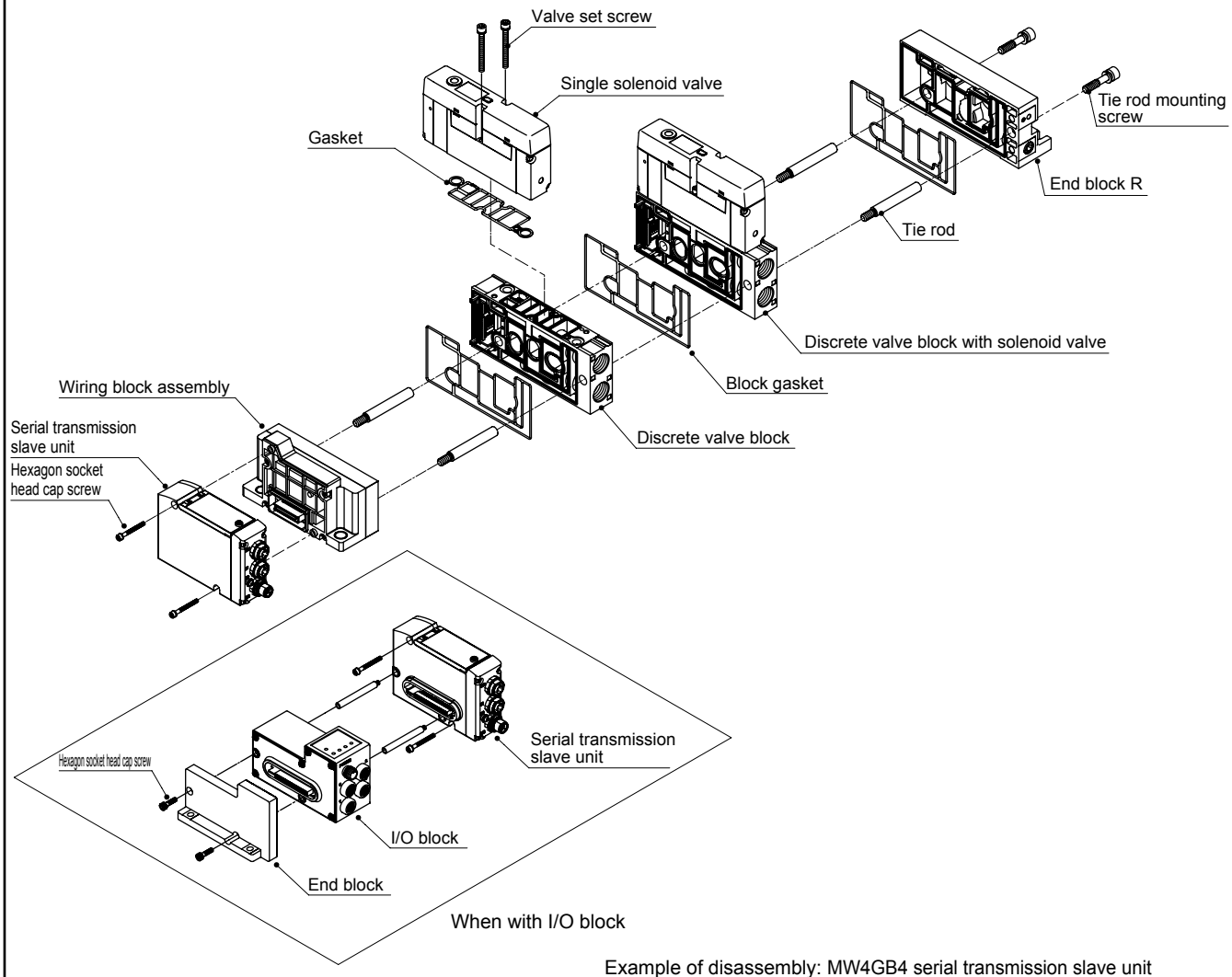
Connection method



Exploded view of block manifold



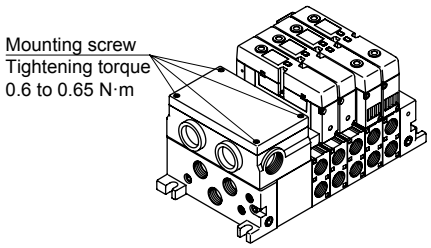
Example of disassembly: MW4GB4 with common terminal block
Left side wiring specifications



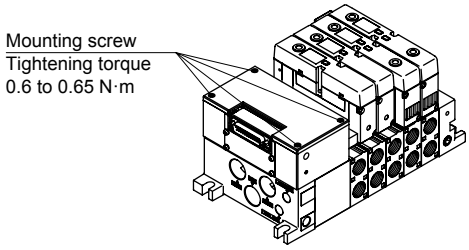
Example of disassembly: MW4GB4 serial transmission slave unit
For T7*

Removing the wiring cover

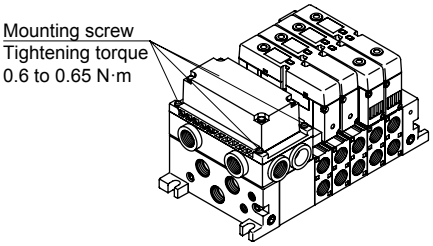
T10/T10R



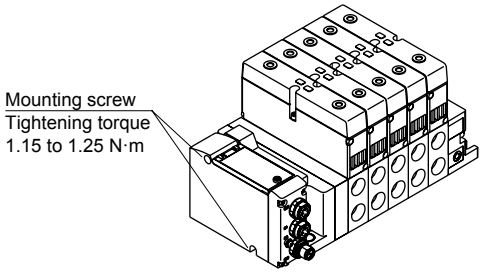
T30/T30R



T6*/T6*R



T7*



Increasing the valve blocks

(1) Remove the tie rod set screws.
(2) Remove the blocks up to the unit increase location.
(3) Install a tie rod for the units being increased.
(4) Mount the valve block to be added.
(5) Press so that there is no gap between blocks, and fasten with the hexagon socket head cap screw. (Tightening torque: 7.0 to 8.0N·m)

Replacing valves

Removing method

(1) Loosen the mounting screws (2 positions).
(2) Remove the valve from the valve block.

Installation method

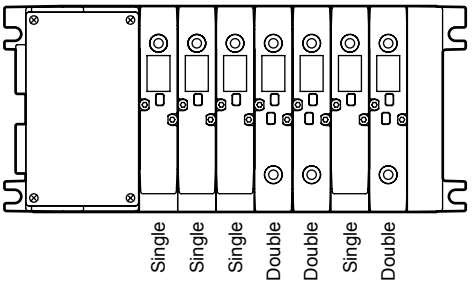
Follow the removal procedure in reverse.
Refer to the table below for the recommended tightening torque for the mounting screws.

Recommended tightening torque for the valve set screw

	Size	Recommended tightening torque (N·m)
W4G4	M4	2.4 to 2.6

Instructions for connecting T10 wiring base (standard wiring)

The correspondence rules for connector and valve on the wiring base vary depending on the reduced wiring specifications (T10). For connector wiring, check the connector No. printed on the base. For wiring of mix (consolidation), the manifold configuration as shown in the figure below is indicated as an example.

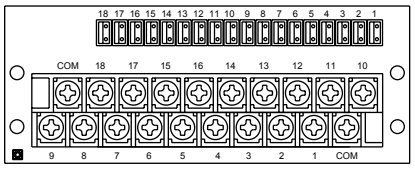


Instructions for connecting T10 wiring base (double wiring)

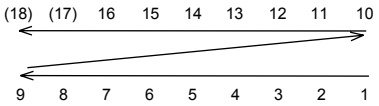
The double wiring specifications correspond to the wiring of the double solenoid, regardless of the switching position classification of the solenoid valve to be mounted. The standard wiring and the double SOL only of double wiring have the same wiring.

T10

Wiring base assembly



Wire in the order shown by the arrow



Correspondence to valve

1) For single SOL
(MF station No. max. 16 stations)

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

2) For double SOL
(MF station No. max. 8 stations)

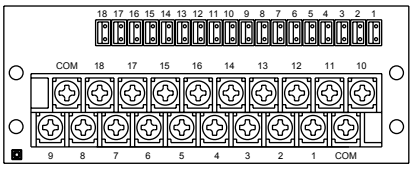
Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	8b	8a	7b	7a	6b	6a	5b
Connector No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a	COM

3) For mix (consolidation)
(Number of solenoid valves up to 16 points)

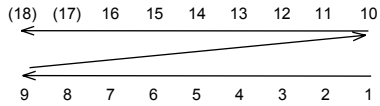
Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	7b
Connector No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	7a	6a	5b	5a	4b	4a	3a	2a	1a	COM

T10

Wiring base assembly



Wire in the order shown by the arrow



Correspondence to valve

1) For single SOL
(MF station No. max. 8 stations)

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

2) For double SOL
(MF station No. max. 8 stations)

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

3) For mix (consolidation)
(Number of solenoid valves up to 16 points)

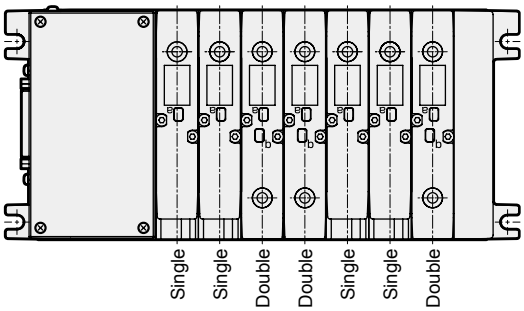
Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	(Blank)	(Blank)	(Blank)	7b	7a	(Blank)	6a	5b
Connector No.	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**COM**
Valve No.	5a	4b	4a	(Blank)	3a	(Blank)	2a	(Blank)	1a	COM

*1 Expansion wiring will be necessary only in the case of AC specifications.
*2 With AC, when a change of specifications is expected, use the masking plate equipped valve block as a spare block.

How to expand reduced wiring manifold (custom order product)

Instructions for connecting T30 wiring base (standard wiring)

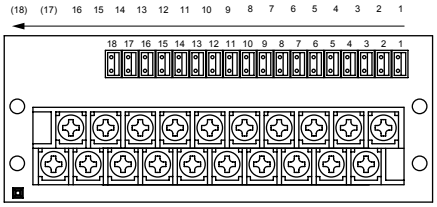
The correspondence rules for connector and valve on the wiring base vary depending on the reduced wiring specifications (T30). For connector wiring, check the connector No. printed on the base. For wiring of mix (consolidation), the manifold configuration as shown in the figure below is indicated as an example.



T30

Wiring base assembly

Wire in the order shown by the arrow



Correspondence to valve

1) For single solenoid valve
(MF max. station number 16 stations)

Connector No.	18	17	16	15	14	13	12	11	10
Valve No.	(Blank)	(Blank)	16a	15a	14a	13a	12a	11a	10a
Connector No.	9	8	7	6	5	4	3	2	1
Valve No.	9a	8a	7a	6a	5a	4a	3a	2a	1a

2) For double solenoid valve
(MF max. station number 8 stations)

Connector No.	18	17	16	15	14	13	12	11	10
Valve No.	(Blank)	(Blank)	8b	8a	7b	7a	6b	6a	5b
Connector No.	9	8	7	6	5	4	3	2	1
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a

3) For mixed use (single/double mixture)
(Number of solenoid valves up to 16 points)

Connector No.	18	17	16	15	14	13	12	11	10
Valve No.	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	7b
Connector No.	9	8	7	6	5	4	3	2	1
Valve No.	7a	6a	5a	4b	4a	3b	3a	2a	1a

*1 Expansion wiring will be necessary only in the case of AC specifications.
*2 With AC, when a change of specifications is expected, use the masking plate equipped valve block as a spare block.

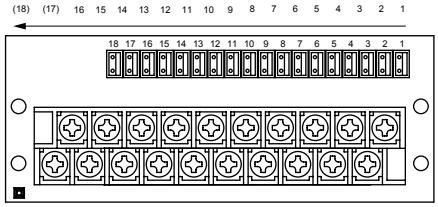
Instructions for connecting T30 wiring base (double wiring)

The double wiring specifications correspond to the wiring of the double solenoid, regardless of the switching position classification of the solenoid valve to be mounted. The standard wiring and the double SOL only of double wiring have the same wiring.

T30

Wiring base assembly

Wire in the order shown by the arrow



Correspondence to valve

1) For single solenoid valve
(MF max. station number 8 stations)

Connector No.	18	17	16	15	14	13	12	11	10
Valve No.	(Blank)	(Blank)	(Blank)	8a	(Blank)	7a	(Blank)	6a	(Blank)
Connector No.	9	8	7	6	5	4	3	2	1
Valve No.	5a	(Blank)	4a	(Blank)	3a	(Blank)	2a	(Blank)	1a

2) For double solenoid valve
(MF max. station number 8 stations)

Connector No.	18	17	16	15	14	13	12	11	10
Valve No.	(Blank)	(Blank)	8b	8a	7b	7a	6b	6a	5b
Connector No.	9	8	7	6	5	4	3	2	1
Valve No.	5a	4b	4a	3b	3a	2b	2a	1b	1a

3) For mixed use (single/double mixture)
(Number of solenoid valves up to 16 points)

Connector No.	18	17	16	15	14	13	12	11	10
Valve No.	(Blank)	(Blank)	(Blank)	(Blank)	7b	7a	(Blank)	6a	(Blank)
Connector No.	9	8	7	6	5	4	3	2	1
Valve No.	5a	4b	4a	3b	3a	(Blank)	2a	(Blank)	1a