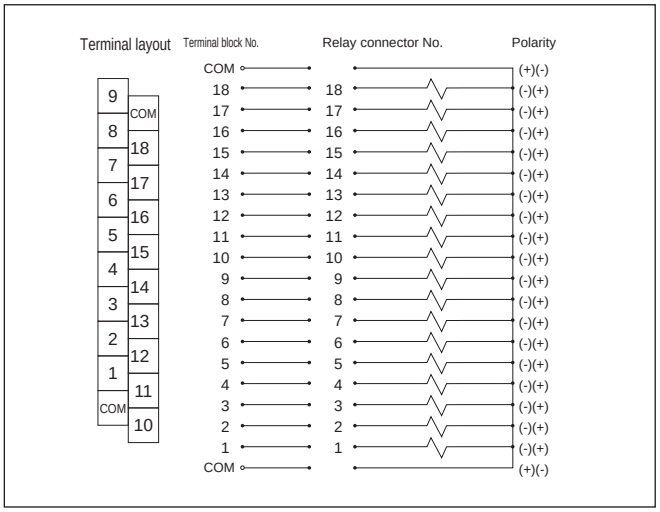
Common terminal box (wiring method T10)

Notes on wiring

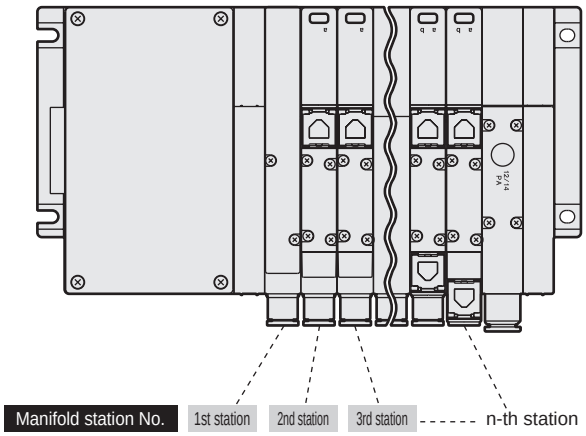
[Precautions for common terminal box (T10)]

(1) With the common terminal box, the common wiring is internally 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 18.
(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 18 solenoid stations)



T10 (left 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

[Standard wiring]

● For single solenoid valve

(MF station No. max. 18 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	18a	17a	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

● For double solenoid valve

(MF station No. max. 9 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	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 18 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

[Double wiring]

(MF station No. max. 9 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	9a	(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

(MF station No. max. 9 stations)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	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

(Number of solenoid valves up to 18 points)

Term. block No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	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

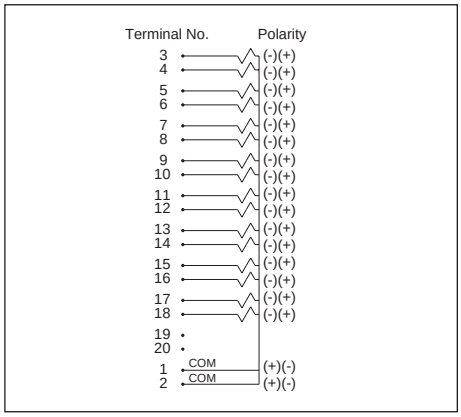
Multi-connector (wiring method T20)

Notes on wiring

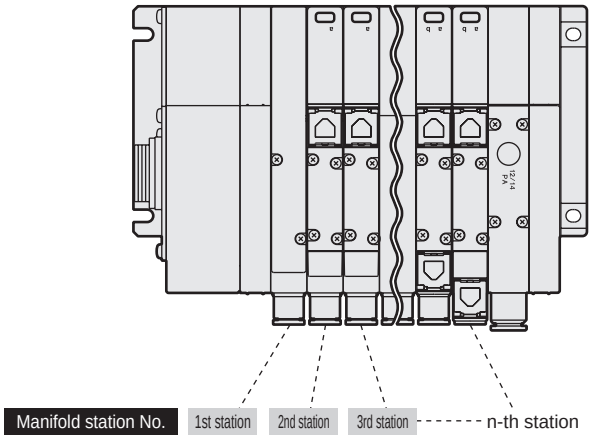
[Precautions for multi-connector (T20)]

(1) With the common terminal box, the common wiring is internally 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 T20 (up to 16 solenoid stations)



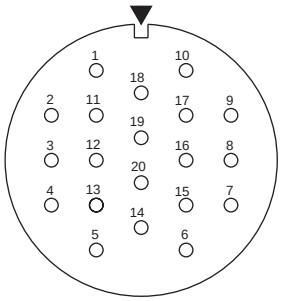
T20 (left side specifications)



Terminal array of wiring method T20 (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. In addition, T20 is only available with double wiring.

Terminal No.



[Double wiring]

● For single solenoid valve

(MF station No. max. 8 stations)

Terminal No.	20	19	18	17	16	15	14	13	12	11
Valve No.	(None)	(None)	(Blank)	8a	(Blank)	7a	(Blank)	6a	(Blank)	5a
Terminal No.	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
Valve No.	(Blank)	4a	(Blank)	3a	(Blank)	2a	(Blank)	1a	COM	COM

● For double solenoid valve

(MF station No. max. 8 stations)

Terminal No.	20	19	18	17	16	15	14	13	12	11
Valve No.	(None)	(None)	8b	8a	7b	7a	6b	6a	5b	5a
Terminal No.	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
Valve No.	4b	4a	3b	3a	2b	2a	1b	1a	COM	COM

● For mixed use (single/double mixture)

(MF station No. max. 8 stations)

Terminal No.	20	19	18	17	16	15	14	13	12	11
Valve No.	(None)	(None)	8b	8a	(Blank)	7a	6b	6a	5b	5a
Terminal No.	**10**	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**
Valve No.	4b	4a	(Blank)	3a	2b	2a	(Blank)	1a	COM	COM

D-sub-connector (Wiring method T30)

Notes on wiring

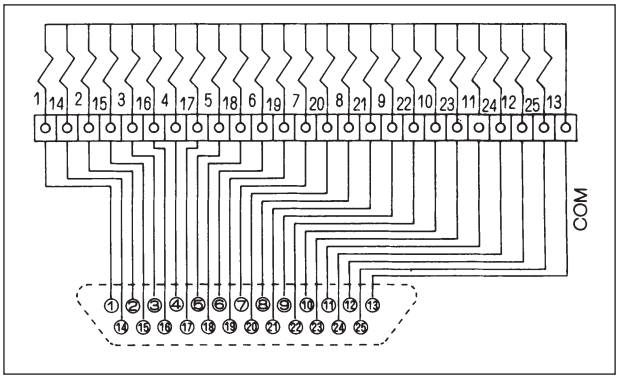
[T30 Connectors]

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.

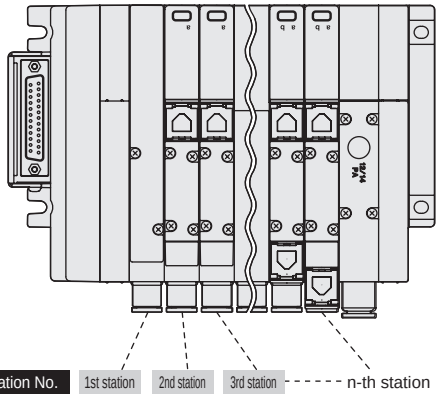
[Precautions for connector T30]

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

Internal wiring of wiring method T30 (up to 24 solenoid stations)



T30 (left 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.

● 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.	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	

● For double solenoid valve

[Standard 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.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

[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.	1b	2b	3b	4b	5b	6b	7b	8b	9b	10b	11b	12b	

● For mixed use (single/double mixture)

[Standard wiring]

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	

[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.	(Blank)	(Blank)	3b	4b	(Blank)	(Blank)	7b	(Blank)	(Blank)	(Blank)	11b	12b	

Flat cable connector (wiring method T51)

Notes on wiring

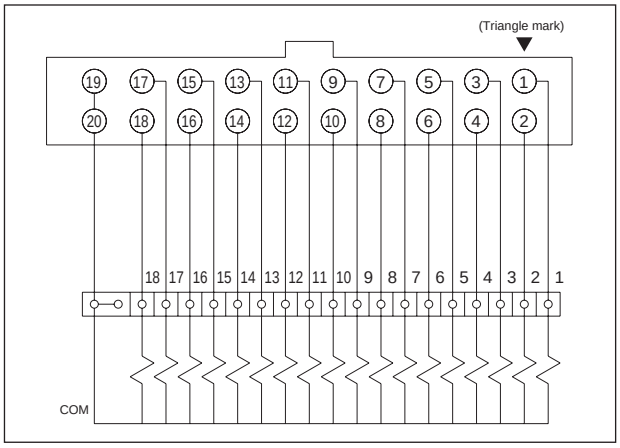
[T51 Connectors]

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. Arrange using connectors and the triangular mark (▼) in the table below for reference. The triangular mark (▼) is the reference for both plug and socket.
The manifold station numbers are set in order from left with b side solenoid (cap for single) facing forward.

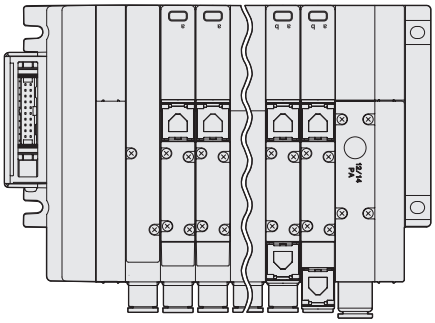
[Precautions for connector (T51)]

(1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T51 is driven with a general output unit.
(4) Never connect this manifold to the input unit, as major failures could occur in this device and in peripherals. Be sure to connect the manifold to the output unit.
(5) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Internal wiring of wiring method T51 (up to 18 solenoid stations)



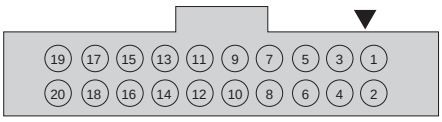
T51 (left side specifications)



T51 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.



● For single solenoid valve only

[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	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)

● For double solenoid valve only

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

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 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	(Blank)	(Blank)	7b	(Blank)	(Blank)	4b	3b	(Blank)	(Blank)

Flat cable connector (wiring method T53)

Notes on wiring

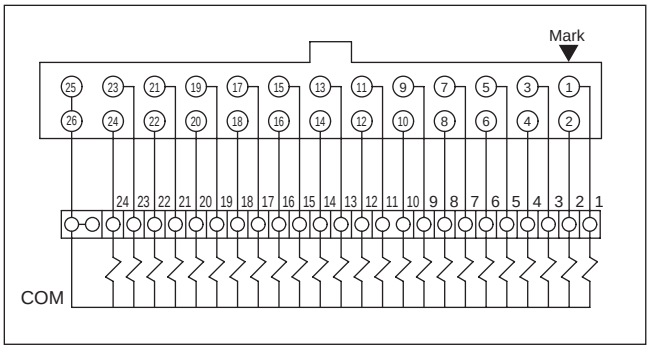
[T53 Connectors]

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. Arrange using connectors and the triangular mark (▼) in the table below for reference. The triangular mark (▼) is the reference for both plug and socket.
The manifold station numbers are set in order from left with b side solenoid (cap for single) facing forward.

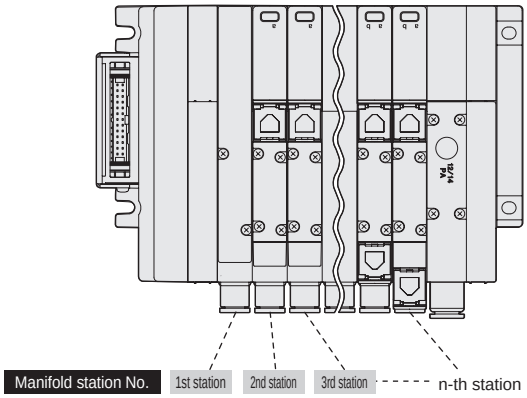
[Precautions for connector (T53)]

(1) Signal arrays of the PLC output unit must match signal arrays on the valve side.
(2) The working power is 12/24 VDC dedicated.
(3) The T53 is driven with a general output unit.
(4) Never connect this manifold to the input unit, as major failures could occur in this device and in peripherals. Be sure to connect the manifold to the output unit.
(5) A voltage drop may occur due to simultaneous energizing or cable length. Confirm that the voltage drop for the solenoid is within 10% of the rated voltage.

Internal wiring of wiring method T53 (up to 24 solenoid stations)



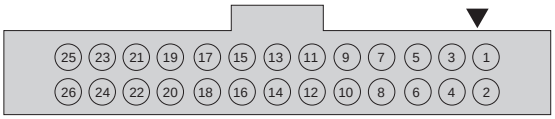
T53 (left side specifications)



T53 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

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

● 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	9b	8b	7b	6b	5b	4b	3b	2b	1b

● For mixed use (single/double 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

[Double wiring]

● For single 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	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)	(Blank)

● 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	9b	8b	7b	6b	5b	4b	3b	2b	1b

● For mixed use (single/double mixture)

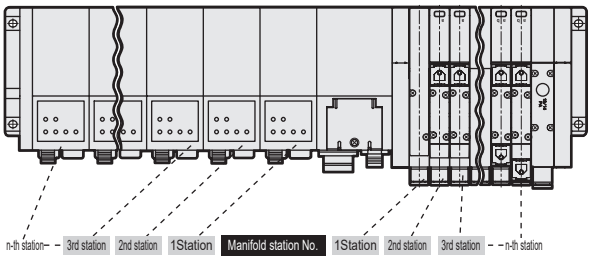
Pin No.	25	23	21	19	17	15	13	11	9	7	5	3	1
Valve No.	COM	12a	11a	10a	9a	8a	7a	6a	5a	4a	3a	2a	1a
Pin No.	**26**	**24**	**22**	**20**	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**
Valve No.	COM	(Blank)	(Blank)	(Blank)	9b	8b	7b	(Blank)	5b	4b	(Blank)	(Blank)	(Blank)

MEMO

Serial transmission:Wiring method

T7*/T8*Serial transmission

- Refer to the table below, as device unit I/O numbers differ according to PLC manufacturer.
- The device unit I/O numbers correspond to the manifold solenoids and I/O block as shown below.
- The solenoid manifold station numbers are set in order from 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 device unit side. When input blocks and output blocks are mixed, the input blocks will be placed first on the device 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 dedicated.
- A device unit for each communication system is used. Contact CKD for usable PLC models, host unit model numbers and communication system specifications. (Refer to page 1086)
- Securely tighten each connector (power/communication). Close and securely tighten the switch cover after completing the address settings, etc. (Proper tightening torque 0.3 N·m)



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

(16) For hexadecimal notation

Serial transmission device unitI/ONo.		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 type	EtherCAT EtherNet/IP CC-Link IEF Basic PROFINET CC-Link DeviceNet	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 type	EtherCAT EtherNet/IP CC-Link IEF Basic PROFINET CC-Link DeviceNet	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

(10) For decimal notation

Serial transmission device unitI/ONo.		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 type	EtherCAT EtherNet/IP CC-Link IEF Basic PROFINET CC-Link DeviceNet	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 type	EtherCAT EtherNet/IP CC-Link IEF Basic PROFINET CC-Link DeviceNet	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

X**is input, Y**indicates output.

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

Device unit	Max. No. of inputs	Max. output points		Serial transmission device unit I/O No																													
	Input block No. of units	Output block No. of units	Valve SOL Number of points	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
・T7*1 ・T7*P1	-	-	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16																
・T7*2 ・T7*P2	-	-	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
・T7*B7 ・T7*PB7	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 units	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 block (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 units	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 block (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 units	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 block (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 units	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 SOLOutput
:Output block
:Input block

I/ONo. of wiring method T8* I/O point number corresponding to

Device unit	Max. No. of inputs: Input block No. of units	Max. output points: Number of output blocks	Max. output points: Solenoid Number of points	Serial transmission device 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
• T8G1(CC-Link) • T8D1(DeviceNet) (0 point input/16 point output)	-	-	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16																
		1 block (4 points)	12 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	1-0	1-1	1-2	1-3																
		2 block (8 points)	8 points	s1	s2	s3	s4	s5	s6	s7	s8	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3																
• T8G2(CC-Link) • T8D2(DeviceNet) (0 point input/32 point output)	-	-	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
		1 block (4 points)	28 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	1-0	1-1	1-2	1-3
		2 block (8 points)	24 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	1-0	1-1	1-2	1-3	2-0	2-1	2-2	2-3
		3 block (12 points)	20 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	s17	s18	s19	s20	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 block (16 points)	16 points	s1	s2	s3	s4	s5	s6	s7	s8	s9	s10	s11	s12	s13	s14	s15	s16	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
• T8G7(CC-Link) • T8D7(DeviceNet) (16 point input/16 point output)	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 block (4 points)	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 block (8 points)	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 block (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 block (4 points)	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 block (8 points)	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 block (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 block (4 points)	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 block (8 points)	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 block (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 block (4 points)	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 block (8 points)	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

:Input block

:Output block

:Solenoid output

* The numbers inside the outline of the I/O blocks indicate "the station order counting from the serial transmission device unit side - connector No."

Valve No. layout corresponding to wiring method T8*/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

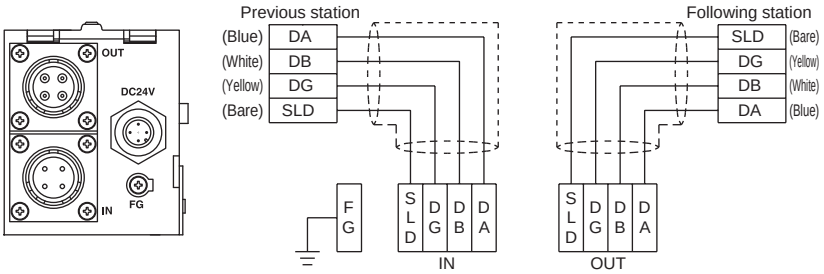
● When mixed (single/double mixture)

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

T8G*

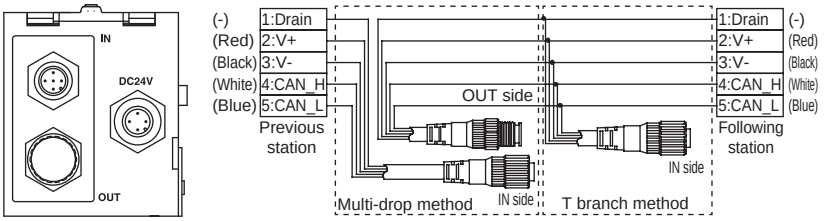
LED name	Display description
PW1	Lights when unit power is ON.
PW2	Lights when valve power is ON.
SD	Lights when transmitting data.
RD	Lights when receiving data.
L RUN	Lights when receiving normal data. Turns OFF at time over.
L ERR	Lights when transmission error occurs. Lights up at time over. Lights when station No. or transmission speed setting fails. Blinks when station No. or transmission speed setting changes.



· The unit power supply and the valve power supply are separate power supplies.
Supply power from the power supply connector. (use M12 connector)
· Connect the CC-Link cable to the communication connector. (use CC-Link dedicated waterproof connector)
· Prepare a connector to be used on the wiring end.
· For the connector pin array, refer to page 1088. Note that the left and right sides will be reversed.

T8D*

LED name	Display description
MS	Displays device unit status.
NS	Displays network status.
VALVE	Lights when valve power is ON.



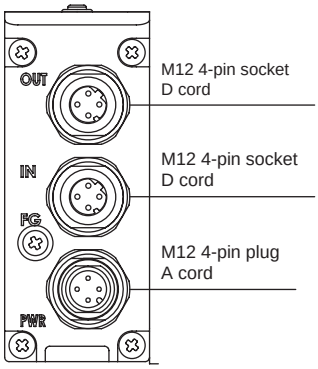
· The unit power supply and the valve power supply are separate power supplies.
Supply power from the power supply connector. (use M12 connector)
· Connect the DeviceNet cable to the communication connector. (use DeviceNet dedicated cable equipped connector)
· Prepare a connector to be used on the wiring end.
· For the connector pin array, refer to page 1089. Note that the left and right sides will be reversed.

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/flashing) (green during normal communication)
ERR	Abnormal status of EtherCAT is indicated by the LED (red) state (OFF/ON/flashing) (OFF during normal communication)
L/A IN	Status of the Ethernet port (IN side) is indicated by the LED (green) state (OFF/ON/flashing)
L/A OUT	Status of the Ethernet port (OUT side) is indicated by the LED (green) state (OFF/ON/flashing)
INFO	Error status of the device 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

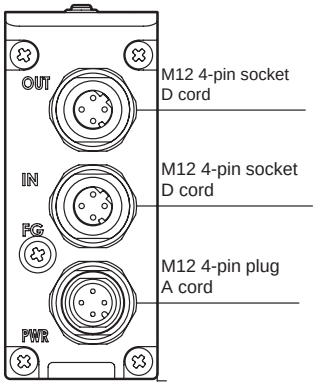
M12 pins		Signal name	Function
OUT	1	TD+	Transmitted data, positive
	2	RD+	Received data, positive
	3	TD-	Transmitted data, negative
	4	RD-	Received data, negative
IN	1	TD+	Transmitted data, positive
	2	RD+	Received data, positive
	3	TD-	Transmitted data, negative
	4	RD-	Received data, negative

· 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.
· For the connector pin wiring, refer to page 1091.

T7EN*

MS ☐
NS ☐
L/A IN ☐
L/A OUT ☐
ST ☐
PW(V) ☐

LED name	Display description
MS	Status of device unit related to EtherNet/IP indicated by LED color (green/red) and ON status (ON/blinking)
NS	Status of network related to EtherNet/IP indicated by LED color (green/red) and ON status (ON/blinking)
L/A IN	Status of Ethernet port (IN side) indicated by LED color (green/yellow)
L/A OUT	Status of Ethernet port (OUT side) indicated by LED color (green/yellow)
ST	Status of device unit indicated by LED color (green/yellow) and ON status (ON/blinking)
PW(V)	Indicates valve power supply power status. Green lamp ON when power turned ON (Cannot be monitored when unit power supply is OFF)



Communication connector pin array

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

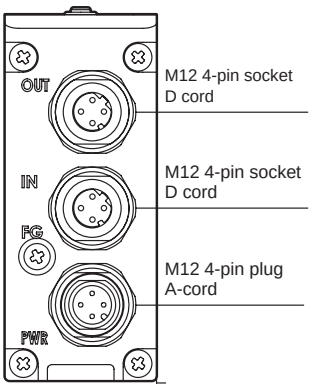
T7EB*

LED display

RUN ☐
ERR ☐
L/A IN ☐
L/A OUT ☐
INFO ☐
PW ☐
PW(V) ☐

LED name	Display description
RUN	Status of CC-Link IEF Basic communication indicated by LED ON status (ON/blinking)
ERR	Status of CC-Link IEF Basic abnormal communication indicated by LED ON status (ON/blinking)
L/A IN	Status of Ethernet port (IN side) indicated by ON LED status (ON/blinking)
L/A OUT	Status of Ethernet port (OUT side) indicated by LED ON status (ON/blinking)
INFO	Status of device unit indicated by LED ON status (ON/blinking)
PW	Indicates unit power supply power status. Green lamp ON when powered ON
PW(V)	Indicates valve power supply power status. Green lamp ON when powered ON (Cannot be monitored when unit power is not turned ON)

Wiring method



Communication connector pin array

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

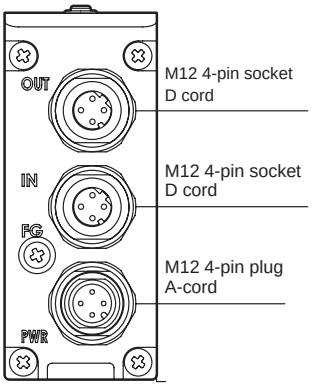
T7EP*

LED display

RUN ☐
ERR ☐
L/A IN ☐
L/A OUT ☐
INFO ☐
PW ☐
PW(V) ☐

LED name	Display description
RUN	Communication status of PROFINET indicated by LED ON status (ON/blinking)
ERR	Abnormal communication status of PROFINET indicated by LED ON status (ON/blinking)
L/A IN	Status of Ethernet port (IN side) indicated by ON LED status (ON/blinking)
L/A OUT	Status of Ethernet port (OUT side) indicated by LED ON status (ON/blinking)
INFO	Status of device unit indicated by LED ON status (ON/blinking)
PW	Indicates unit power supply power status. Green lamp ON when powered ON
PW(V)	Indicates valve power supply power status. Green lamp ON when powered ON (Cannot be monitored when unit power is not turned ON)

Wiring method



Communication connector pin array

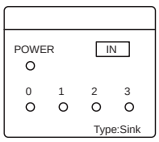
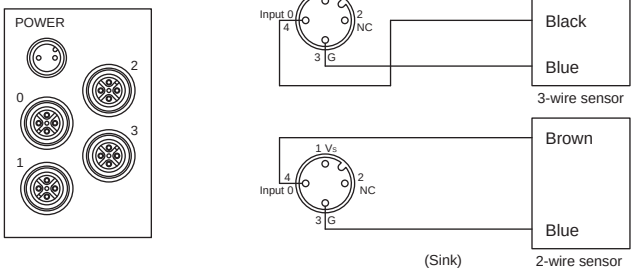
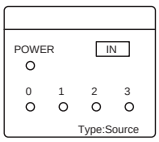
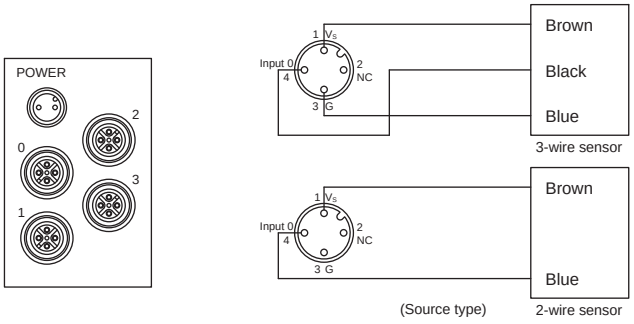
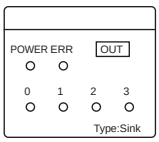
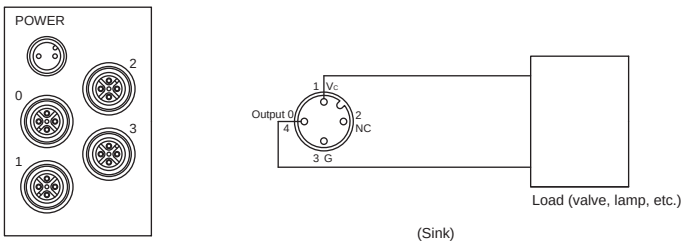
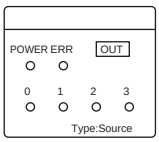
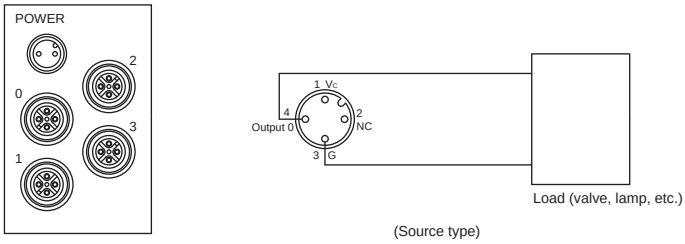
Port	Pin	Signal name	Function
IN OUT	1	TD+	Transmitted data, positive
	2	RD+	Received data, positive
	3	TD-	Transmitted data, negative
	4	RD-	Received data, negative

MEMO

PLC compatibility table

Model No.	Manufacturer name (recommended organization)	Communication system name	Host unit model No.
T7EC*	EtherCAT Technology Group	EtherCAT	Connected to EtherCAT-compatible master
	OMRON Corporation		NJ101 NJ301 NJ501 CJ1W-NC□82
T7EN*	ODVA	EtherNet/IP	Connected to EtherNet/IP-compatible master
	OMRON Corporation		NJ101 NJ301 NJ501 CJ1W-EIP21 CS1W-EIP21
T7EB*	CC-Link Partner Association (CLPA)	CC-Link IEF Basic	Connected to CC-Link IEF Basic-compatible master
	Mitsubishi Electric Corporation		MELSEC-Q Series Q03UDVCPU
T7EP*	PROFIBUS & PROFINET International	PROFINET	Connected to PROFINET-compatible master
	SIEMENS Corporation		S7-1200 S7-1500
T8D*	ODVA	DeviceNet	Connected to DeviceNet-compatible master
	OMRON Corporation		CJ1W-DRM21 CS1W-DRM21-V1 C200HW-DRM21-V1 CVM1-DRM21-V1
T8G*	CC-Link Partner Association (CLPA)	CC-Link	Each manufacturer's CC-Link compatible master
	Mitsubishi Electric Corporation		QJ61BT11N A1SJ61QBT11 A1SJ61BT11

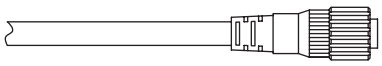
Note: For details on master units and models not listed above, contact each PLC manufacturer.

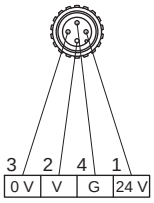
Model No. / I/O type		LED display	Wiring method
Input block NW4G□2-IN-$^{N}_{P}$-$^{K}_{B}$	Sink		
		LED name / **Display description** **POWER**: Lights when power supply for sensor is supplied **0 to 3**: Lights when each sensor output is ON	· There are two types of power supplies for the sensors. One has specifications common with the unit power supply and the other has specifications where an external power supply is supplied form the POWER connector. · The input include sink and source type. · Prepare a connector to be used on the cable end.
	Source type		
		LED name / **Display description** **POWER**: Lights when power supply for sensor is supplied **0 to 3**: Lights when each sensor output is ON	· There are two types of power supplies for the sensors. One has specifications common with the unit power supply and the other has specifications where an external power supply is supplied form the POWER connector. · The input include sink and source type. · Prepare a connector to be used on the cable end.
Output block NW4G□2-OUT-$^{N}_{P}$-B	Sink		
		LED name / **Display description** **POWER**: Lights when power supply for external load is supplied **ERR**: Lights when protection circuit is operating **0 to 3**: Lights when each external load is ON	· Feed the power supply for external loads from the POWER connector. (Dedicated for 24 VDC) · Take care that the total of the external load current is 3 A or less (1 A/1 point or less). · The output include sink and source type. · Prepare a connector to be used on the cable end.
	Source type		
		LED name / **Display description** **POWER**: Lights when power supply for external load is supplied **ERR**: Lights when protection circuit is operating **0 to 3**: Lights when each external load is ON	· Feed the power supply for external loads from the POWER connector. (Dedicated for 24 VDC) · Take care that the total of the external load current is 3 A or less (1 A/1 point or less). · The output include sink and source type. · Prepare a connector to be used on the cable end.

Waterproof connector

For CC-Link

● Power supply connector (female pin)





Pin No.	Signal name	Remarks
1	24 V	Unit power supply + side
2	V	Valve power supply + side
3	0 V	Unit power supply - side
4	G	Valve power supply - side

Recommended connector

Connector with cable

· XS2F-D421-* (single end connector socket)

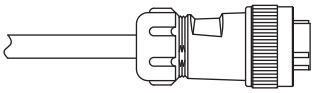
Assembly connector

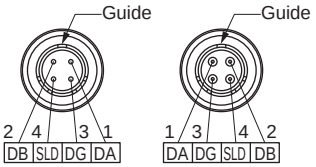
· XS2C-D4C* (crimping)
· XS2C-D42* (soldering)
· XS2C-D4S* (screw connecting)

OMRON Corporation

* Do not use the L type connector.

● Communication connector





Pin No.	Signal name	Conductor color
1	DA	Blue
2	DB	White
3	DG	Yellow
4	SLD	Shielded stranded wire

Recommended connector: For IN FA-204-PF8 (female pin)
For OUT FA-204-PM8 (male pin)

Mitsubishi Electric Engineering Co., Ltd.

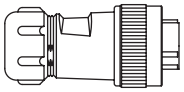
* The above model No. supports cables where the outer diameter of the cable being used is ø7.0 to ø8.5.
Contact Mitsubishi Electric Engineering Co., Ltd. when the outer diameter of the cable is different.
* Contact Mitsubishi Electric Engineering Co., Ltd. for the cable equipped waterproof connector.

● Communication cable

Recommended cable (representative example)

CC-Link dedicated cable	FANC-SB
Ver. 1.10 compatible dedicated cable	FANC-110SBH

Kuramo Electric Co., Ltd.



This device unit is compatible with CC-Link Ver. 1.10

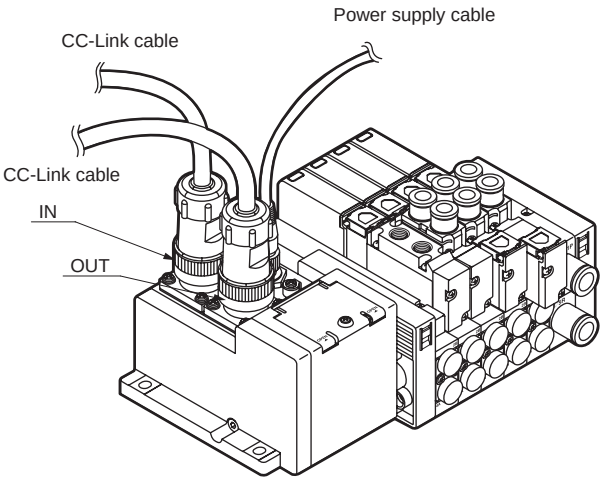
Name End connector
Model Name FA-CONW4P110E
Manufacturer Mitsubishi Electric Engineering Co., Ltd.

* End processing will be necessary when the device unit is being connected to the fartherest position from the master unit. Connect the above end connector to the OUT side. When being used with the specially designed high-performance cable or a T-branched connection, exchange the resistor within the end connector.

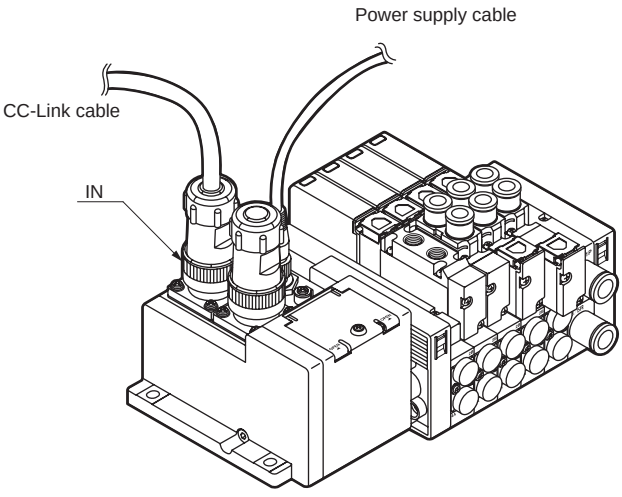
	Dedicated cable and ver. 1.10 compatible dedicated cable	Specially designed high-performance cable	T-branched connection	
			Main line wiring	Sub line wiring
Terminating resistor	110 Ω (equipped)	130 Ω	110 Ω x 2 units	No terminating resistor

Connection method

● For intermediary station



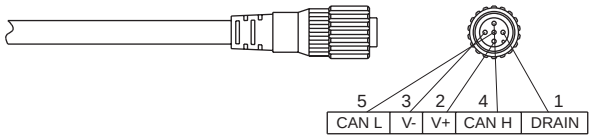
● For terminating station



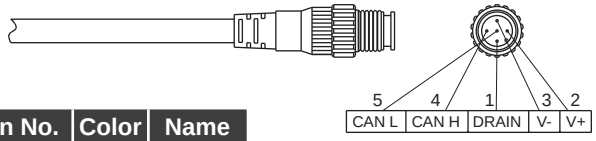
Waterproof connector

For DeviceNet

● Connector with cable for DeviceNet (female pin: for IN)



● Connector with cable for DeviceNet (male pin: for OUT)



Pin No.	Color	Name
1	−	DRAIN
2	Red	V+
3	Black	V-
4	White	CAN H
5	Blue	CAN L

Recommended connectors with cable

• DCA1-5CN**W1 (both-end connector with cable socket/plug)

For IN

• DCA1-5CN**F1 (single-end connector with cable socket)

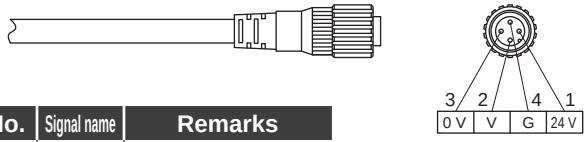
For OUT

• DCA1-5CN**H1 (single-end connector with cable plug)

OMRON Corporation

* Do not use the L type connector.

● Connector for power supply (female pin)



Pin No.	Signal name	Remarks
1	24 V	Unit power supply + side
2	V	Valve power supply + side
3	0 V	Unit power supply - side
4	G	Valve power supply - side

Recommended connectors

Connector with cable

• XS2W-D421-* (both end connector socket/plug)
• XS2F-D421-* (single end connector socket)

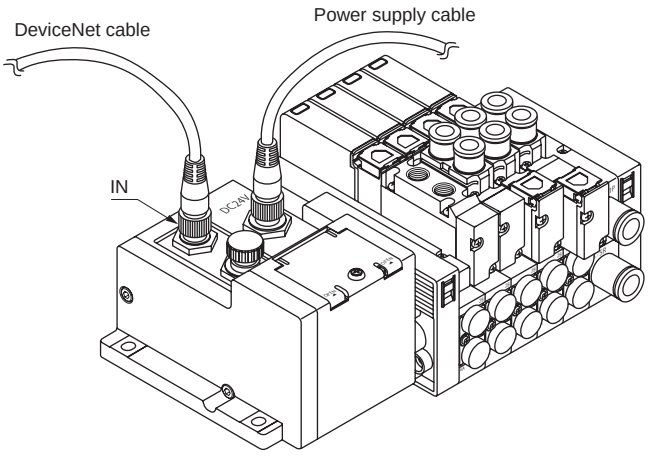
Assembly connector

• XS2C-D4C* (crimping)
• XS2C-D42* (soldering)
• XS2C-D4S* (screw connecting)

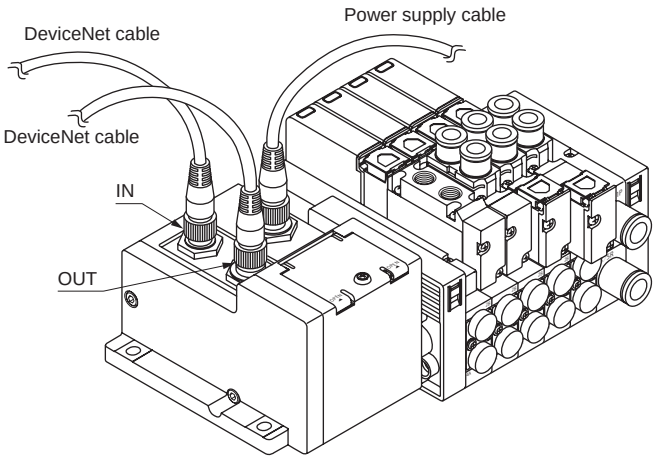
OMRON Corporation

Connection method

● When using a T-branched connection



● When using a multi-drop connection

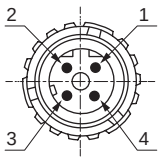


* When conducting multi-drop wiring with the DeviceNet communication cable, make sure that the current of the communication power supply passing through this device unit is rated at 2 A or less.

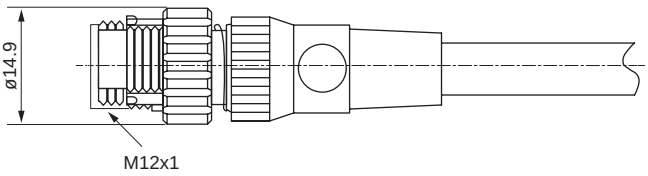
Waterproof connector

For EtherCAT

● For EtherCAT connector



(Plug)



M12x1

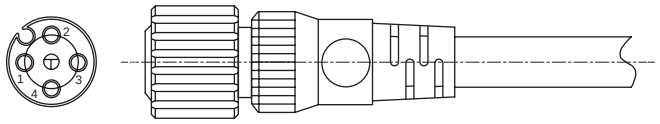
Pin No.	Signal name	Function
1	TD+	Transmitted data, positive
2	RD+	Received data, positive
3	TD-	Transmitted data, negative
4	RD-	Received data, negative

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



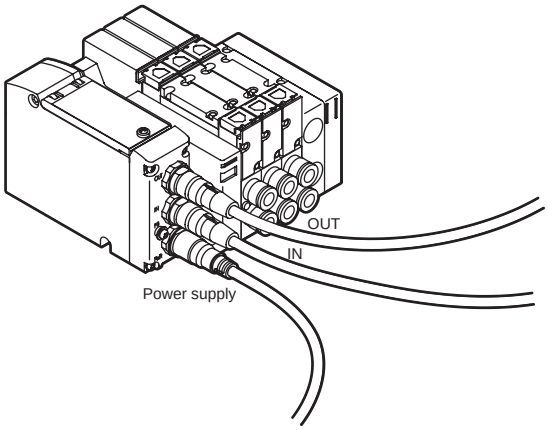
Pin No.	Description
1	Unit power supply + side (24 VDC)
2	Valve power supply + side
3	Unit power supply - side (0 V)
4	Valve power supply - side

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: ø6 to 8

* □ differs depending on the cable specifications.

Connection method

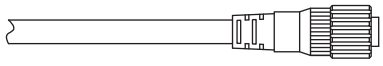


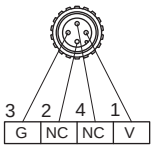
Waterproof connector

For I/O

❶ For input block

● External power supply connector (male pin)





Pin No.	Signal name	Remarks
1	V	External power supply + side
2	NC	Not connected
3	G	External power supply - side
4	NC	Not connected

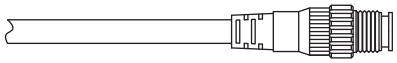
Recommended connector
Connector with cable
· XS2F-D421-* (single end connector socket)

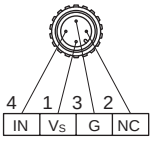
Assembly connector
· XS2C-D4C* (crimping)
· XS2C-D42* (soldering)
· XS2C-D4S* (screw connecting)

OMRON Corporation

* Do not use the L type connector.

● Sensor side connector (male pin)





2-wire sensor

Pin No.	Signal name	Sink	Source type
1	V_S	Not connected	Sensor power supply + side
2	NC	Not connected	Not connected
3	G	Sensor power supply - side	Not connected
4	IN	Input signal	Input signal

3-wire sensor

Pin No.	Signal name	Sink/source type
1	V_S	Sensor power supply + side
2	NC	Not connected
3	G	Sensor power supply - side
4	IN	Input signal

Recommended connector
Connector with cable
· XS2H-D421-* (single end connector plug)

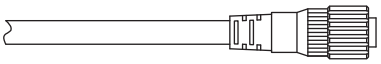
Assembly connector
· XS2G-D4C* (crimping)
· XS2G-D42* (soldering)
· XS2G-D4S* (screw connecting)

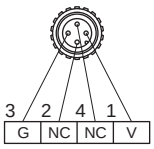
OMRON Corporation

* Do not use the L type connector.

❷ For output block

● External power supply connector (male pin)





Pin No.	Signal name	Remarks
1	V	External power supply + side
2	NC	Not connected
3	G	External power supply - side
4	NC	Not connected

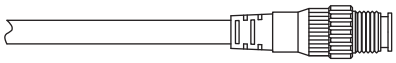
Recommended connector
Connector with cable
· XS2F-D421-* (single end connector socket)

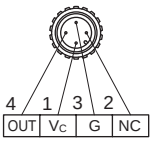
Assembly connector
· XS2C-D4C* (crimping)
· XS2C-D42* (soldering)
· XS2C-D4S* (screw connecting)

OMRON Corporation

* Do not use the L type connector.

● External load side connector (male pin)





Pin No.	Signal name	Sink	Source type
1	V_C	Power supply for load + side	Not connected
2	NC	Not connected	Not connected
3	G	Not connected	Power supply for load - side
4	OUT	Output signal	Output signal

Recommended connector
Connector with cable
· XS2H-D421-* (single end connector plug)

Assembly connector
· XS2G-D4C* (crimping)
· XS2G-D42* (soldering)
· XS2G-D4S* (screw connecting)

OMRON Corporation

* Do not use the L type connector.

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

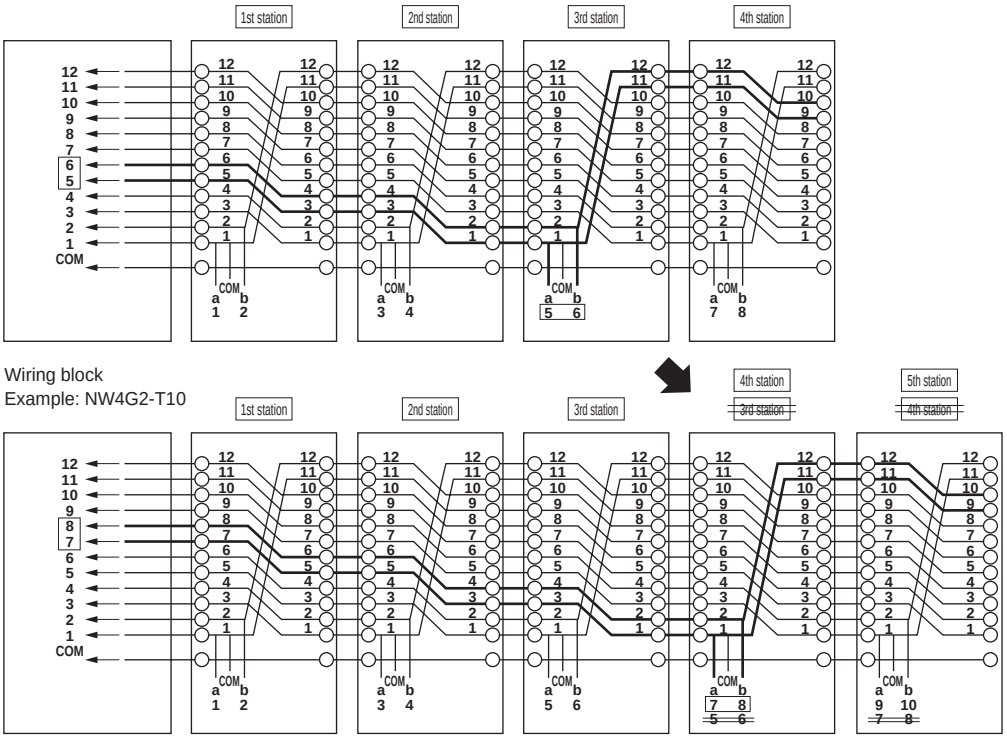
A part called a dedicated wiring connector is built into the valve block and supply and exhaust block, etc. This structure enables the wiring to be completed simultaneously with the disassembly and assembly of the block manifold. Special wiring work is not required during disassembly and assembly. There 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 MW4G2 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.

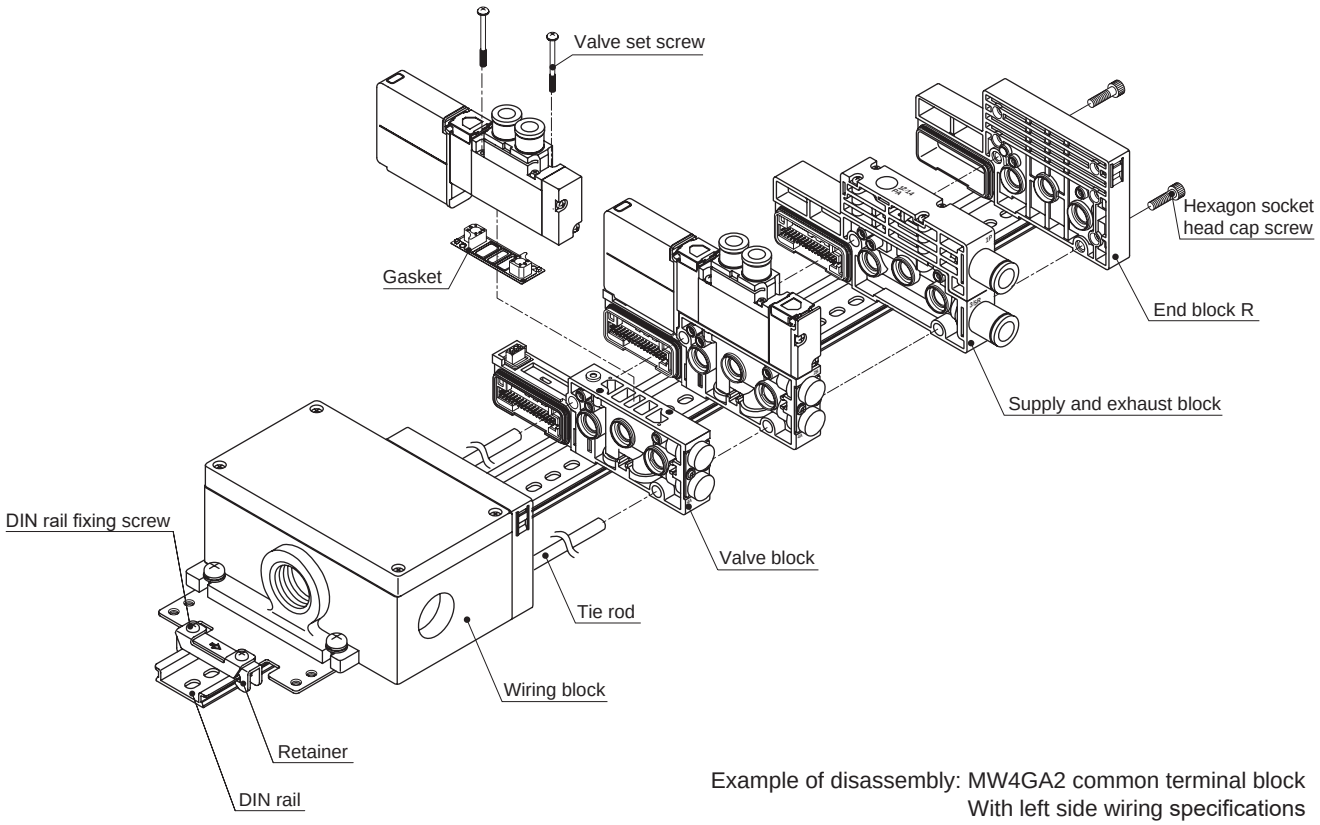


Standard wiring

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.

Exploded view of block manifold

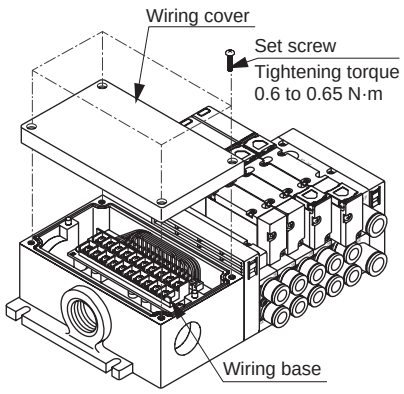
* For an exploded view of the serial transmission device unit + I/O block, refer to the following page.



Example of disassembly: MW4GA2 common terminal block
With left side wiring specifications

Removing the wiring cover

T10



Increasing the valve blocks

(● when mounted on a DIN rail)

❶Loosen the retainer's DIN rail set screws.
(2) Remove the hexagon socket head cap screw.
(3) Remove the blocks up to the unit increase location.
(4) Install a tie rod for the units being increased.
(5) Mount the valve block to be added.
(6) Press so that there is no gap between blocks, and fasten with the hexagon socket head cap screw. (Tightening torque: 1.1 to 1.3 N·m)
❼-A. Catch retainer jaws onto DIN rail,
-B. press retainer in direction of arrow, and
-C. fasten DIN rail set screw.
(Tightening torque: 1.2 to 1.6 N·m)

Replacing valves

Removing method

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

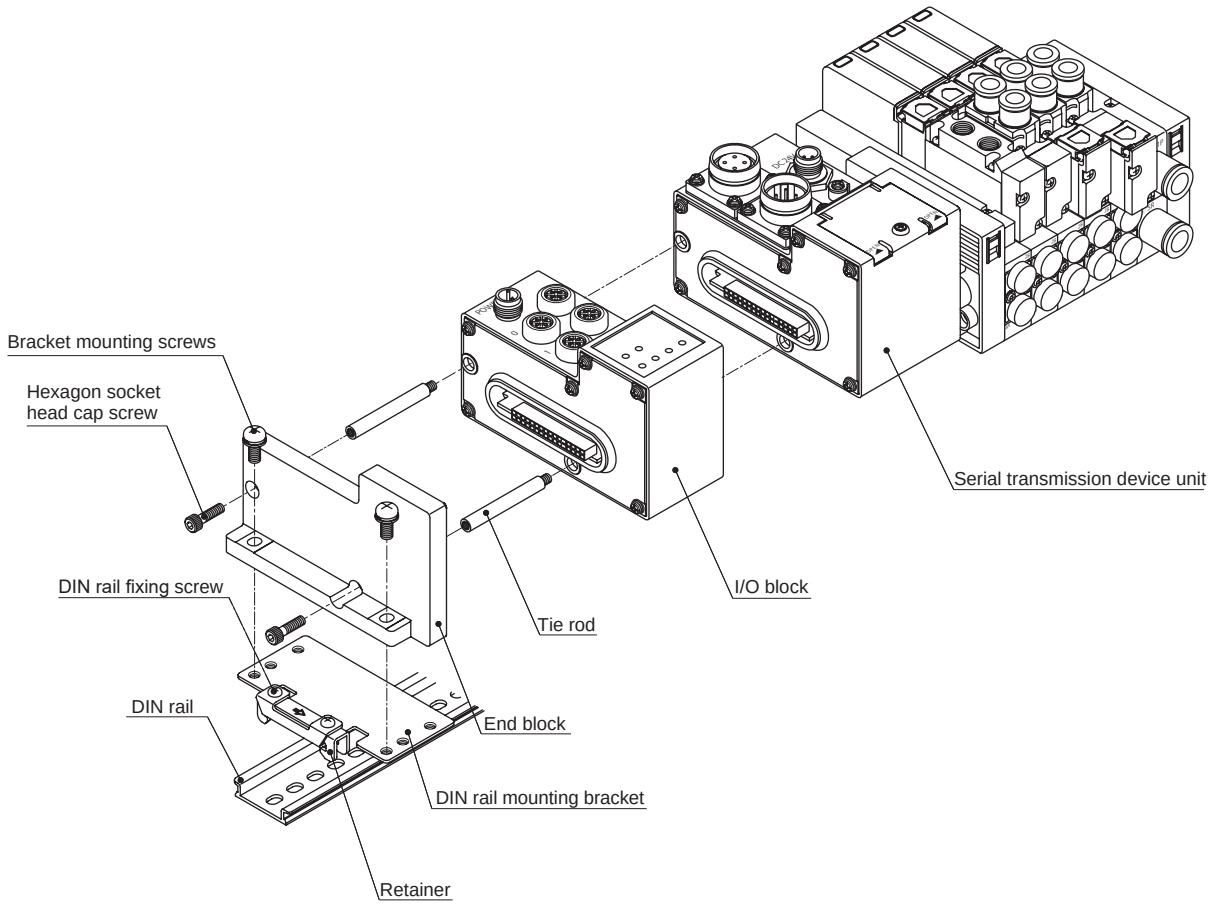
Installation method

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)
4G2	M2.5	0.25 to 0.30

Exploded view of serial transmission device unit + I/O block



Expansion of I/O block

(● when mounted on a DIN rail)

❶Loosen the retainer's DIN rail set screws.

❷Remove the bracket mounting screws and remove the DIN rail mounting bracket.

(3) Remove the hexagon socket head cap screw.

(4) Remove the I/O blocks up to the unit increase location.

(5) Install a tie rod for the units being increased.

(6) Mount the I/O block to be added.

(Configurations for the rotary switch are necessary with an I/O block. Refer to the handling precautions included with the product for details.)

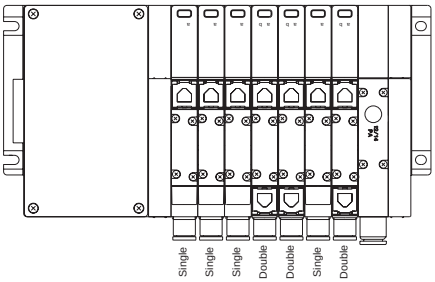
(7) Press so that there is no gap between blocks, and fasten with the hexagon socket head cap screw. (Tightening torque: 1.1 to 1.3 N·m)

❽Attach the DIN rail mounting bracket with the bracket mounting screws.
(Tightening torque: 1.8 to 2.3 N·m)

❾-A. Catch retainer jaws onto DIN rail,
-B. press retainer in direction of arrow, and
-C. fasten DIN rail set screw.
(Tightening torque: 1.2 to 1.6 N·m)

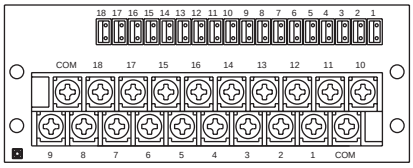
Instructions for connecting T10 wiring base (standard wiring)

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.

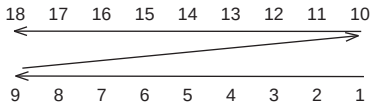


T10

Wiring base assembly



Wire in the order shown by the arrow



Correspondence to valve

1) For single SOL
(MF station No. max. 18 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	18a	17a	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. 9 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	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 18 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

*1 Expansion wiring will be necessary only with AC specifications.

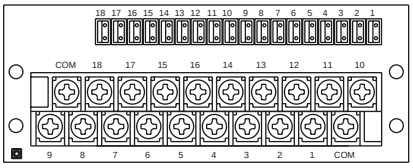
*2 With AC, when a change of specifications is expected, use the masking plate equipped valve block as a spare block.

Instructions for connecting T10 wiring base (double wiring)

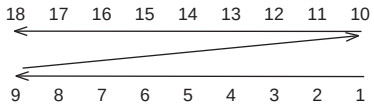
The double wiring specifications correspond to the wiring of the double solenoid, regardless of the switching position classification of the solenoid valve to be mounted. The standard wiring and the double SOL only of double wiring have the same wiring.

T10

Wiring base assembly



Wire in the order shown by the arrow



Correspondence to valve

1) For single SOL
(MF station No. max. 9 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	(Blank)	9a	(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. 9 stations)

Connector No.	COM	18	17	16	15	14	13	12	11	10
Valve No.	COM	9b	9a	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 18 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