

KOGANEI

CC-Link Compatible

Serial transmission compatible manifold

User's Manual

Ver. 3.0

Supported solenoid valves

● **F series**

CC-Link

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Serial transmission compatible manifold

User's Manual

This user's manual describes the serial transmission block so that the serial transmission compatible manifold and solenoid valves can be used correctly. See the individual catalogs or the valves general catalog for information about the relevant manifolds and the valves.

To use these products correctly, you must first read the documentation.



CAUTION

This product does not have the appropriate functions to support applications, such as safety equipment or accident prevention systems, that require high levels of safety.

- Do not put the communication cables near or in bundles with power lines.
- This manual is for the F series solenoid valves. Contact us if you are using a different series of solenoid valves.
- See the manuals from CC-Link Partner Association for more information and precautions regarding the CC-Link.

1. Serial transmission block compatible with solenoid valve series

Serial transmission block single unit model	YS6B1 and YS6B3	YS2B1
Supported solenoid valve series	F10 and F15 series	F18 series

2. Specifications

General specifications

Item	Model	YS6B1 (16 outputs), YS6B3 (32 outputs) and YS2B1 (16 outputs)
Power supply voltage		24 VDC $\pm 10\%$
Power consumption		3 W or less (YS6B1 and YS2B1), 4 W or less (YS6B3) excluding solenoid valve
Operating temperature range		5 to 50°C [41 to 122°F]
Operating humidity range		35 to 85% RH (Non-condensation)
Operating atmosphere		No corrosive gases and no excessive dust
Vibration resistance		49.0 m/s ² [5 G]
Shock resistance		98.1 m/s ² [10 G]
Dielectric strength		1000 VAC for 1 minute (between all external terminals and the case)
Noise resistance		900 V or more (pulse width 1 μ s)
Insulation resistance		10 M Ω or more (between all external terminals and the case, using a 500 VDC insulation tester)

★The above specifications are for the serial transmission block itself. You must consider the specifications for the solenoid valves that are mounted regarding the installation and operation in your operating environment. See the valves general catalog or the catalogs for relevant solenoid valves regarding specifications for the solenoid valves and other parts.

Communication specifications

Item	Specifications
Communication protocol	CC-Link Ver1.10*
Occupied station number	1 station
Station number set range	1 ~ 64
Station type	Remote I/O station
Transmission speed	156kbps, 625kbps, 2.5Mbps, 5Mbps, 10Mbps

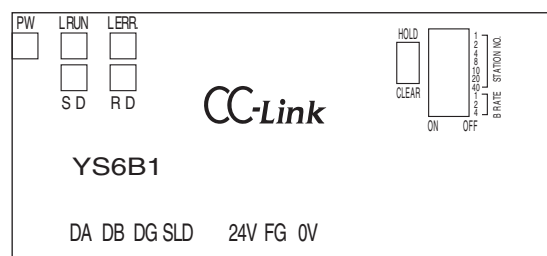
★Ver1.10 units can be connected to master units supported by Ver2.0.

3. About serial transmission blocks YS6B1, YS6B3 and YS2B1

3-1. Names of parts of the LED display panel

LED display panel

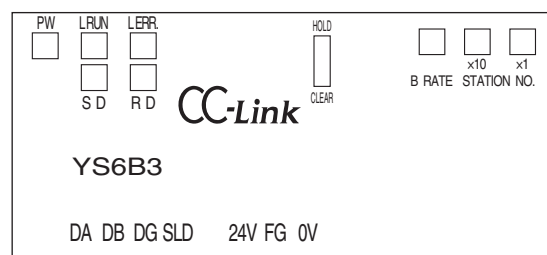
● For YS6B1



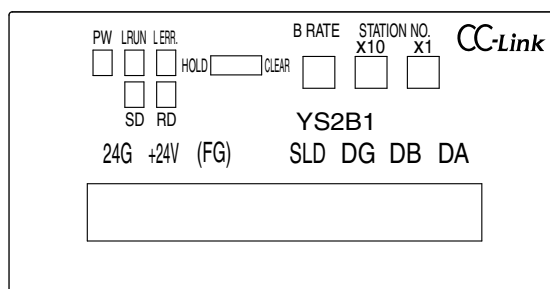
Description of LED display

Name	Description
PW	Lit while power is on
L RUN	Lit while normal data is received from the master station
SD	Lit while sending data
RD	Lit while receiving data
L ERR.	Lights when a transmission error occurs, turns off when there is a timeout, and lights when there are incorrect station number settings or transmission speed settings

● For YS6B3



● For YS2B1

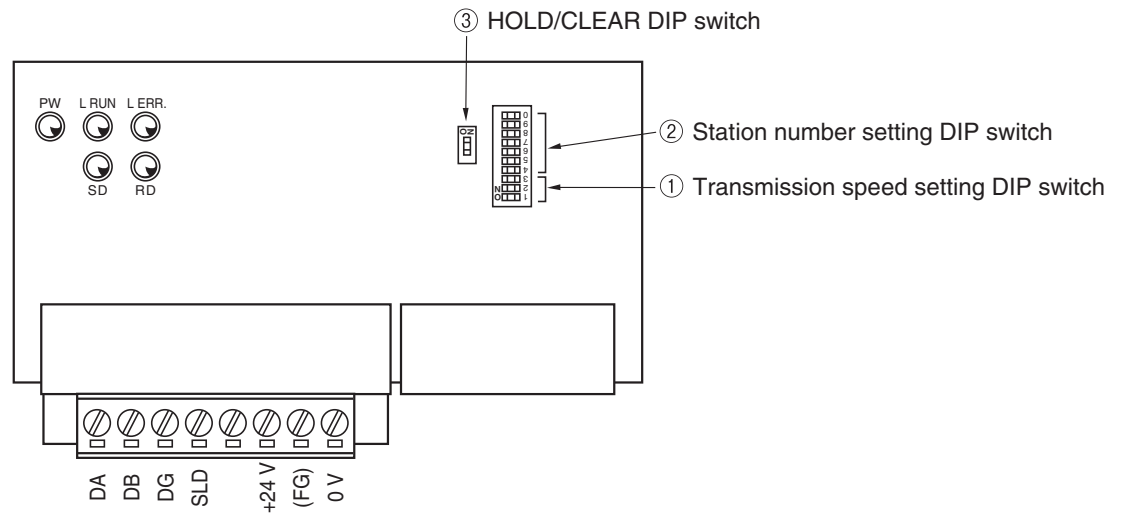


3-2. Switch settings

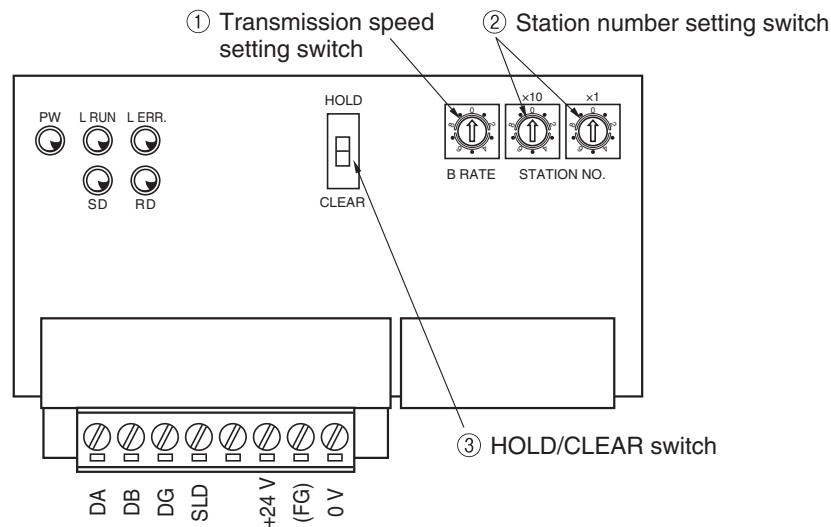
Open the wiring cover and set the switches.

Caution: Always turn off the power supply before doing settings.

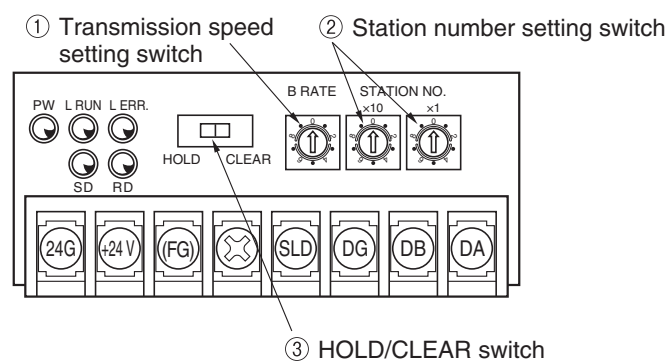
● For YS6B1



● For YS6B3



● For YS2B1



① Transmission speed setting switch (B RATE)

● For YS6B1

The setting must be within the following ranges. 0: OFF
1: ON

Baud Rate Switch			
4	2	1	Transmission speed
0	0	0	156 kbps
0	0	1	625 Kbps
0	1	0	2.5 Mbps
0	1	1	5 Mbps
1	0	0	10 Mbps

● For YS6B3 and YS2B1

Always set the transmission speed setting switch in the range from 0 to 4.

Settings	Transmission speed
0	156 Kbps
1	625 Kbps
2	2.5 Mbps
3	5 Mbps
4	10 Mbps

② Station number setting switch (STATION No.)

● For YS6B1 0: OFF 1: ON

Always set the station number setting switch in the range from 01 to 64, and set it so the station numbers are consecutive. Also, station numbers can be set without regard to the connection sequence, but you cannot set duplicate numbers.

Station number	Station No. Switch						
	40	20	10	8	4	2	1
1	0	0	0	0	0	0	1
2	0	0	0	0	0	1	0
3	0	0	0	0	0	1	1
4	0	0	0	0	1	0	0
5	0	0	0	0	1	0	1
6	0	0	0	0	1	1	0
7	0	0	0	0	1	1	1
8	0	0	0	1	0	0	0
9	0	0	0	1	0	0	1
10	0	0	1	0	0	0	0
11	0	0	1	0	0	0	1
12	0	0	1	0	0	1	0
13	0	0	1	0	0	1	1
14	0	0	1	0	1	0	0
15	0	0	1	0	1	0	1
16	0	0	1	0	1	1	0
17	0	0	1	0	1	1	1
18	0	0	1	1	0	0	0
19	0	0	1	1	0	0	1
20	0	1	0	0	0	0	0
21	0	1	0	0	0	0	1
22	0	1	0	0	0	1	0
23	0	1	0	0	0	1	1
24	0	1	0	0	1	0	0
25	0	1	0	0	1	0	1
26	0	1	0	0	1	1	0
27	0	1	0	0	1	1	1
28	0	1	0	1	0	0	0
29	0	1	0	1	0	0	1
30	0	1	1	0	0	0	0
31	0	1	1	0	0	0	1
32	0	1	1	0	0	1	0

Station number	Station No. Switch						
	40	20	10	8	4	2	1
33	0	1	1	0	0	1	1
34	0	1	1	0	1	0	0
35	0	1	1	0	1	0	1
36	0	1	1	0	1	1	0
37	0	1	1	0	1	1	1
38	0	1	1	1	0	0	0
39	0	1	1	1	0	0	1
40	1	0	0	0	0	0	0
41	1	0	0	0	0	0	1
42	1	0	0	0	0	1	0
43	1	0	0	0	0	1	1
44	1	0	0	0	1	0	0
45	1	0	0	0	1	0	1
46	1	0	0	0	1	1	0
47	1	0	0	0	1	1	1
48	1	0	0	1	0	0	0
49	1	0	0	1	0	0	1
50	1	0	1	0	0	0	0
51	1	0	1	0	0	0	1
52	1	0	1	0	0	1	0
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54	1	0	1	0	1	0	0
55	1	0	1	0	1	0	1
56	1	0	1	0	1	1	0
57	1	0	1	0	1	1	1
58	1	0	1	1	0	0	0
59	1	0	1	1	0	0	1
60	1	1	0	0	0	0	0
61	1	1	0	0	0	0	1
62	1	1	0	0	0	1	0
63	1	1	0	0	0	1	1
64	1	1	0	0	1	0	0

● For YS6B3 and YS2B1

Always set the station number setting switch in the range from 01 to 64, and set it so the station numbers are consecutive. You can also set station numbers regardless of the connection sequence. (You cannot set duplicate station numbers.)

Name of switch	Function
X10	Set the tens' place for the station number.
X1	Set the ones' place for the station number.

③ HOLD/CLEAR switch (HOLD/CLEAR)

● Common to YS6B1, YS6B3, and YS2B1

Settings	Function
HOLD	Preserves output when an error occurs.
CLEAR	Resets output when an error occurs.

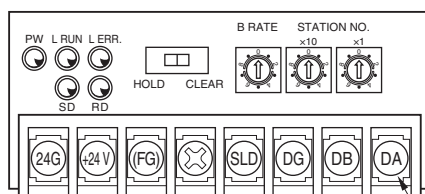
3-3. Wiring

Do the wiring according to the labels. For YS2B1, open the wiring cover and connect the transmission cable and power cable (24 VDC) to the wiring terminal. With a knife, cut the center of the rubber grommet on the side of the transmission block, and put the wires into the transmission block case. (Grommet model and manufacturer: rubber grommet, model SG-22A manufactured by Kyowa Rubber Industry CO., LTD.)

The screws on the wiring terminal are M3 screws. Use crimped terminals (JIS 2805 R-type 1.25-3 equivalent) suitable for the terminal screws.

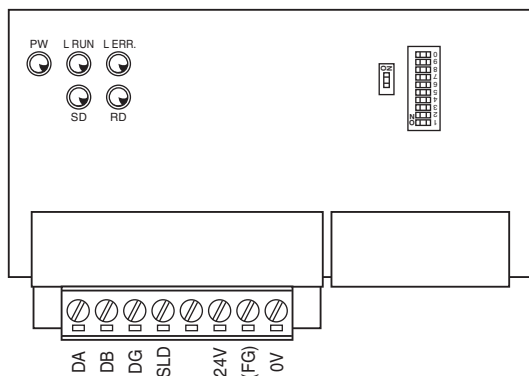
■ Names of parts of wiring terminal

● For YS2B1

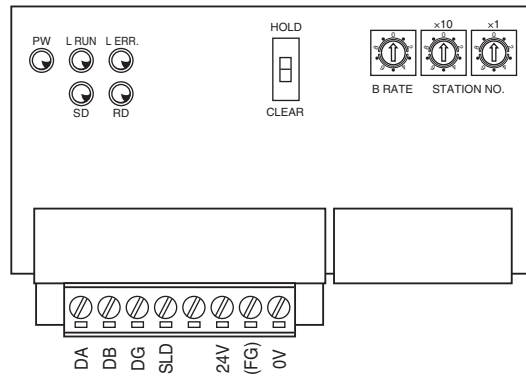


Tightening torque for terminal screws (M3 x 0.5) is 0.5 N·m [4.4 in·lbf] maximum.

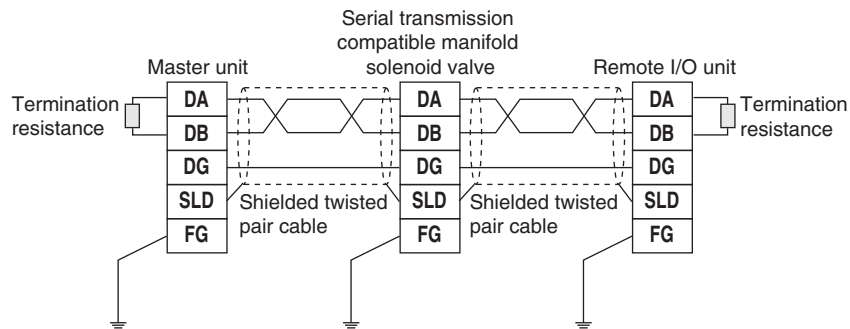
● For YS6B1



● For YS6B3



■ Connection method



- ★ Use cables recommended by CC-Link Partner Association for the cables.
Connect the termination resistance between DA and DB terminals on each end unit of the serial transmission network.

■ Power line connection

Connect the power line to the power terminals (24 V and 0 V) or (+24 V and 24 G) on the serial transmission block. This power supply is for both driving the solenoid valves and for internal circuits in the transmission block.



If you are supplying power from one source to multiple remote I/Os or to serial transmission compatible manifold solenoid valves; or if you are supplying power from far away, consider the voltage drop when selecting a power cable before you start wiring to assure you have a power supply voltage that is within the rated voltage (24 V \pm 10%).

If you cannot eliminate a voltage drop due to long wires, implement measures such as installing a separate power source close to the serial transmission compatible manifold solenoid valves.

4. Output device and solenoid valve connections

The serial transmission block has 16 outputs, 0 to F. Or, it has 32 outputs, 0 to 1F. The relationship between the output device numbers in the program and the actual mounted solenoid valves is shown below.

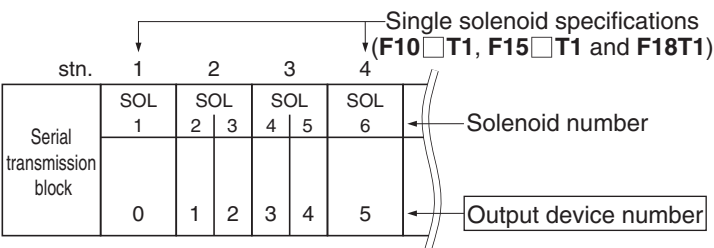
The relationship between all the solenoids on the manifold and output device numbers is different depending on what is specified for "Wiring specifications" in the manifold ordering codes.

Wiring specifications **Blank** (packed wiring): Wired according to specifications of mounted valves.
 -W (double wiring): All wiring is for double solenoids, regardless of the specifications of the mounted valves.

① If wiring specifications are "blank" (packed wiring)

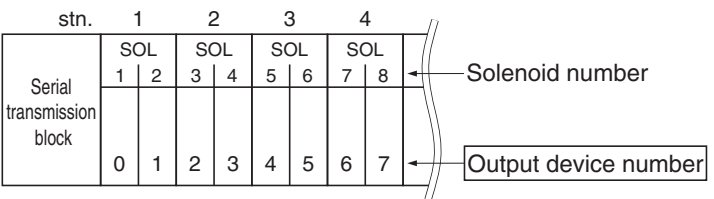
The valves specified in the single solenoid specifications (**F□T1**) when ordering are wired to solenoid A only and are not wired to solenoid B because wiring is done according to specifications for the mounted valves.

This means that it cannot function as a double solenoid valve after it is delivered because no current flows to solenoid B, even if it is switched from a single solenoid valve to a double solenoid valve.



② When wiring specifications are "-W" (double wiring)

All wiring is for double solenoids.



- For other information, detailed specifications, and precautions, see the product catalog.
- For inquiries about the product, contact our Overseas Department noted below.



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