

Bank Selection Unit FX-CH(P)

Thank you very much for purchasing Panasonic products. Please read this Instruction Manual carefully and thoroughly for the correct and optimum use of this product. Kindly keep this manual in a convenient place for quick reference.

**WARNING**

- Never use this product in a device for personnel protection.
- Make sure to use this product in combination with the horizontal connecting connector type fiber sensor FX-300 series incorporating the data bank function. For details of FX-300 series, refer to the Instruction Manual enclosed with the fiber amplifier.

**1 OUTLINE**

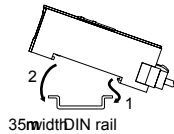
- This is a unit which, by using the external channel selection input, can collectively load / save the setting data of 3 channels which are stored in the data bank of the horizontal connecting connector type fiber sensor FX-300 series.
- The setting data of max. 16 units of FX-300 series can be changed collectively.

**2 MOUNTING**

Make sure that FX-CH(-P) should be mounted to a 35mm width DIN rail.

**How to mount the unit**

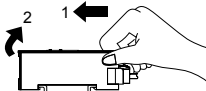
1. Fit the rear part of the mounting section of the unit on a 35mm width DIN rail.
2. Press down the rear part of the mounting section of the unit on the 35mm width DIN rail and fit the front part of the mounting section on the 35mm width DIN rail.



**How to remove the unit**

1. Push the unit forward.
2. Lift up the front part of the unit to remove it.

Note: Take care that if the front part is lifted up without pushing the unit forward, the hook on the rear portion of the mounting section is likely to break.



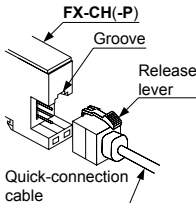
**3 CONNECTION**

<Connection of the quick-connection cable (CN-73-C)>

Make sure to connect or disconnect the quick-connection cable (CN-73-C) in the power supply off condition.

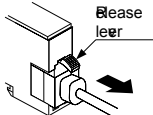
**Connection method**

1. Holding the connector of the quick-connection cable, align its release lever with the groove at the top portion of the unit.
2. Insert the connector till a click is felt.



**Disconnection method**

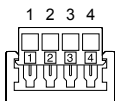
1. Pressing the release lever at the top of the quick-connection cable connector, pull out the connector.



Note: Take care that if the connector is pulled out without pressing the release lever, the release lever may break. Do not use a quick-connection cable whose release lever has broken. Further, do not pull by holding the cable, as this can cause a cable-break.

<Connection of the snap male connector (SL-CP1/CP2)>

- Make sure to connect or disconnect the snap male connector (SL-CP1/CP2) in the power supply off condition.
- When there are any unused wires, please insulate them.



	FX-CH	FX-CH-P
1	Input 1	Input 1
2	Input 2	Input 2
3	Input 3	Input 3
4	0V	+V

- For details of hook-up procedure etc. of the snap male connector (SL-CP1/CP2), please refer to the Instruction Manual enclosed with the snap male connector.

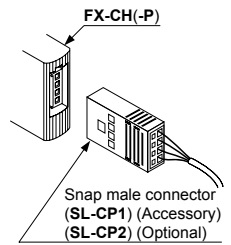
**Connection method**

1. Insert the SL-CP1/CP2 with the cable connected, with holding its body, to each connector of the unit reliably.

**Disconnection method**

1. Pull the SL-CP1/CP2, with holding its body, from the FX-CH(-P) horizontally.

Note: Take care that if the connector is pulled by holding the cable, the cable may break.



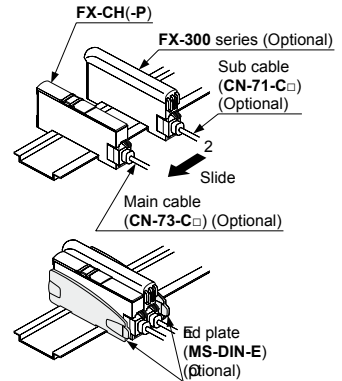
**4 CASCADING UNITS**

- Make sure to add or remove the units in the power supply off condition.
- After the units and the horizontal connecting connector type fiber sensor FX-300 series are cascaded, make sure to fit the end plate (MS-DIN-E) to hold them from both the sides.
- 16 units of FX-300 series can be cascaded for a FX-CH(-P).

For mounting and removing the unit, refer to "2 MOUNTING."

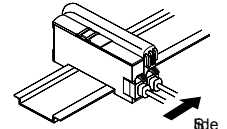
**Cascading method**

1. Mount the FX-CH(-P) and FX-300 series on a 35mm width DIN rail. When attaching these units, be sure that the FX-CH(-P) is located to the leftmost position as shown in the diagram right.
2. Slide the FX-300 series to the FX-CH(-P) and connect the each connector closely without any gap between them.
3. Mount the end plate (MS-DIN-E) (optional) at both ends to hold the units between their flat sides.
4. Tighten the screws to fix the end plates (MS-DIN-E).



**Dismantling method**

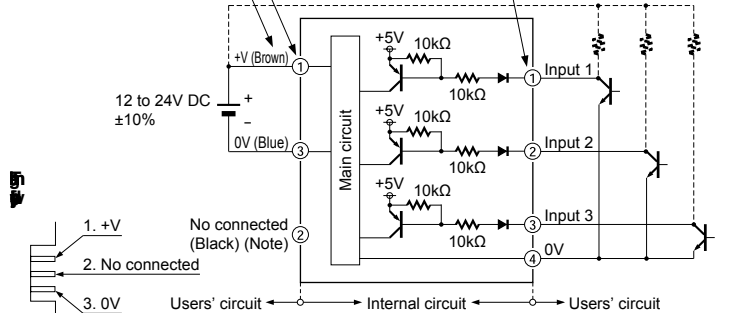
1. Loosen the screws of the end plates (MS-DIN-E). Slide FX-300 series and remove them one by one.



**5 I/O CIRCUIT DIAGRAM**

<FX-CH (In case of connecting on with NPN type)>

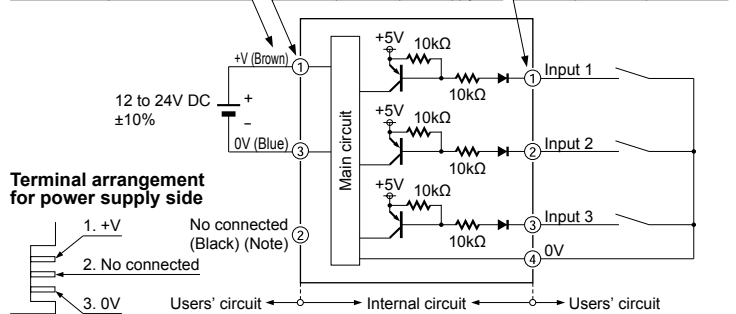
Color code of quick-connection cable Connector pin No. for power supply side Connector pin No. for input device side



Note: The output wire (black) of the quick-connection cable (CN-73-C) is not connected to the internal circuit. Open or connect to 0V.

<FX-CH (In case of connecting with contact type)>

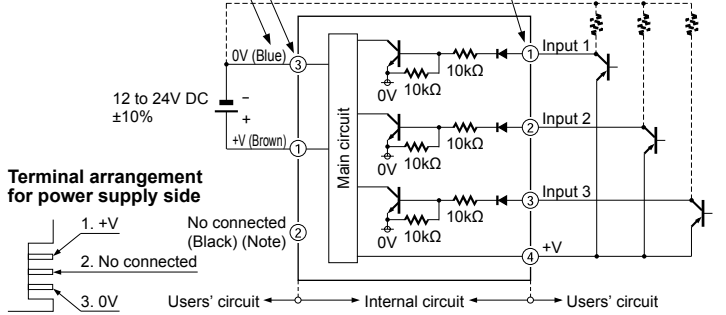
Color code of quick-connection cable Connector pin No. for power supply side Connector pin No. for input device side



Note: The output wire (black) of the quick-connection cable (CN-73-C) is not connected to the internal circuit. Open or connect to 0V.

### <FX-CH-P (In case of connecting with PNP type)>

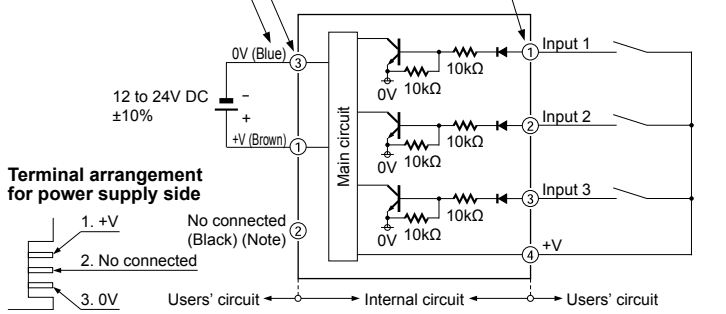
Color code of quick-connection cable Connector pin No. for power supply side Connector pin No. for input device side



Note: The output wire (black) of the quick-connection cable (CN-73-C□) is not connected to the internal circuit. Open or connect to 0V.

### <FX-CH-P (In case of connecting with contact type)>

Color code of quick-connection cable Connector pin No. for power supply side Connector pin No. for input device side



Note: The output wire (black) of the quick-connection cable (CN-73-C□) is not connected to the internal circuit. Open or connect to 0V.

## 6 OPERATION TIMING CHART

- The operation timing of FX-CH(-P) is set with the following procedure.

### Setting procedure

- Select the data bank channel in the input 1 or input 2.

#### <FX-CH>

	Load / Save		
	1 ch	2 ch	3 ch
Input 1	●	○	●
Input 2	○	●	●
Input 3	○	●	●

- : Low (0 to +2V DC)
- : High (+5V to +V DC or open)

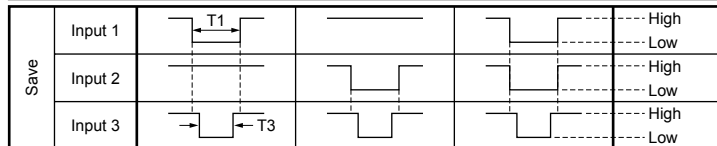
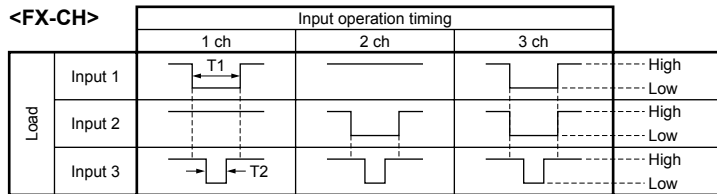
#### <FX-CH-P>

	Load / Save		
	1 ch	2 ch	3 ch
Input 1	■	□	■
Input 2	□	■	■
Input 3	■	■	■

- : High(+4V to +V DC)
- : Low (0 to +0.6V DC or open)

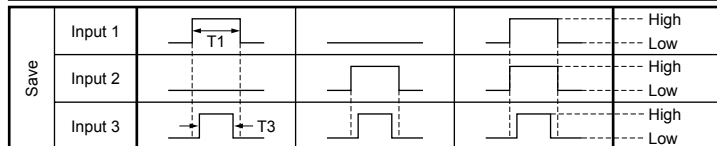
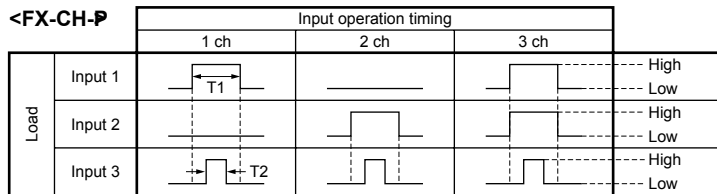
- Maintain the condition of the input 1 or input 2.
- Input the timing period T2 and load from the input 3. At this time, the transmission operation indicator (green) lights up. [Input the timing period T3 for saving. At this time, the communication operation indicator (green) blinks → lights up.]
- Cancel the input 3.

#### <FX-CH>



Timing period: T1 = T1 > T2, T1 > T3, T2 = 1ms to less than 2 sec., T3 = 2 sec. or more

#### <FX-CH-P>



Timing period: T1 = T1 > T2, T1 > T3, T2 = 1ms to less than 2 sec., T3 = 2 sec. or more

## 7 SPECIFICATIONS

Item	Type	NPN input type	PNP input type
	Model No.	FX-CH	FX-CH-P
Supply voltage		12 to 24V DC±10% Ripple P-P 10% or less	
Current consumption		25mA or less (when all indicators light up)	
Bank selection input		Low: 0 to +2V DC Source current: 0.5mA Input impedance: Approx. 10kΩ High: +5V to +V DC or open	High: +4V to +V DC Sink current: 0.5 to 3mA Input impedance: Approx. 10kΩ Low: 0 to +0.6V DC or open
Power indicator		Green LED (Lights up when the power is ON)	
Transmission operation indicator		Green LED (Lights up when loaded, blinks → lights up when saved)	
Ambient temperature		-10 to +55°C (No dew condensation or icing allowed) Storage: -20 to +70°C	
Ambient humidity		35 to 85% RH, Storage: 35 to 85% RH	
Material		Enclosure: Heat-resistant ABS	
Weight		Approx. 20g	
Accessory		SL-CP1 (Snap male connector): 1 pc.	

Note: Connection cable is not enclosed. Be sure to use the quick-connection cable (optional).  
Main cable (3-core):  
CN-73-C1 (cable length 1m), CN-73-C2 (cable length 2m), CN-73-C5 (cable length 5m)

## 8 CAUTIONS

- This product has been developed / produced for industrial use only.
- Make sure that the power supply is off while wiring and cascading.
- Take care that if a voltage exceeding the rated range is applied, or if an AC power supply is directly connected, the product may get burnt or damaged.
- Take care that short-circuit of the load or wrong wiring may burn or damage the product.
- Do not run the wires together with high-voltage lines or power lines or put them in the same raceway. This can cause malfunction due to induction.
- Verify that the supply voltage variation is within the rating.
- If power is supplied from a commercial switching regulator, ensure that the frame ground (F.G.) terminal of the power supply is connected to an actual ground.
- In case noise generating equipment (switching regulator, inverter motor, etc.) is used in the vicinity of this product, connect the frame ground (F.G.) terminal of the equipment to an actual ground.
- Do not use during the initial transient time (approx. 4 sec.) after the power supply is switched on.
- Make sure to use an isolation transformer for the DC power supply. If an auto-transformer (single winding transformer) is used, this product or the power supply may get damaged.
- In case a surge is generated in the used power supply, connect a surge absorber to the supply and absorb the surge.
- Make sure to use the optional quick-connection cable for the connection of the amplifier. Extension up to total 10m is possible with 0.3mm<sup>2</sup>, or more, cable. However, in order to reduce noise, make the wiring as short as possible.
- Make sure that stress by forcible bend or pulling is not applied directly to the sensor cable joint.
- This sensor is suitable for indoor use only.
- Avoid dust, dirt, and steam.
- Take care that the product does not come in contact with oil, grease, organic solvents, such as thinner, etc., strong acid or alkaline.
- This product cannot be used in an environment containing inflammable or explosive gases.
- Never disassemble or modify the product.

## 9 INTENDED PRODUCTS FOR CE MARKING

- The models listed under "7 SPECIFICATIONS" come with CE Marking. As for all other models, please contact our office.



## Panasonic Electric Works SUNX Co., Ltd.

http://panasonic-electric-works.net/sunx

### Overseas Sales Division (Head Office)

2431-1 Ushiyama-cho, Kasugai-shi, Aichi, 486-0901, Japan  
Phone: +81-568-33-7861 FAX: +81-568-33-8591

### Europe Headquarter: Panasonic Electric Works Europe AG

Rudolf-Diesel-Ring 2, D-83607 Holzkirchen, Germany  
Phone: +49-8024-648-0

### US Headquarter: Panasonic Electric Works Corporation of America

629 Central Avenue New Providence, New Jersey 07974 USA  
Phone: +1-908-464-3550

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