



Thank you very much for selecting Autonics products.
For your safety, please read the following before using.

Caution for your safety

- *Please keep these instructions and review them before using this unit.
- *Please observe the cautions that follow:
- Warning** Serious injury may result if instructions are not followed.
- Caution** Product may be damaged, or injury may result if instructions are not followed.
- *The following is an explanation of the symbols used in the operation manual.
- Caution**: Injury or danger may occur under special conditions.

Warning

- In case of using this unit with machineries (Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc), it requires installing fail-safe device, or contact us for information required.
- It may result in serious damage, fire or human injury
- This unit must be mounted on Panel.
- It may give an electric shock.
- Do not connect terminals when it is power on.
- It may give an electric shock.
- Do not disassemble and modify this unit, when it requires.
- If needs, please contact us.
- It may give an electric shock and cause a fire.

Caution

- This unit shall not be used outdoors.
- It might shorten the life cycle of the product or give an electric shock.
- When wire connection, No.20AWG(0.50mm²) should be used and screw bolt on terminal block with 0.74N·m to 0.90N·m strength.
- It may result in malfunction or fire due to contact failure.
- Please observe specification rating.
- It might shorten the life cycle of the product and cause a fire.
- Do not use the load beyond rated switching capacity of Relay contact.
- It may cause insulation failure, contact melt, contact failure, relay broken, fire etc.
- In cleaning the unit, do not use water or an organic solvents.
- It might cause an electric shock or fire that will result in damage to the product.
- Do not use this unit at place where there are flammable or explosive gas, humidity, direct ray of the sun, radiant heat, vibration, impact etc.
- It may cause explosion.
- Do not inflow dust or wire dregs into inside of this unit.
- It may cause a fire or mechanical trouble.

Input logic selection

*Please be sure to turn power OFF before changing input logic.

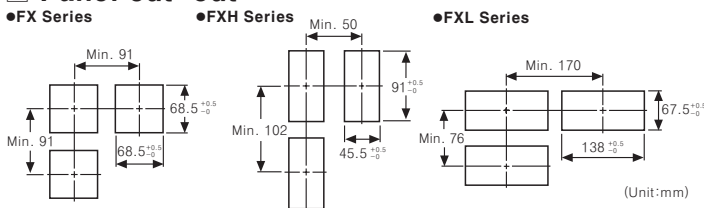
FX series
Input logic is changeable by input logic selection switch located at the one-side of case.

FXH series
Input logic is changeable by input logic selection switch located at the terminal block.

FXL series
Input logic is changeable by input logic selection switch (SW3) located at the inside of the case.

No-voltage input (NPN) / Voltage input (PNP) diagrams and switch positions.

Panel cut-out



Input operation mode (Counter)

Input mode, SW1, Counting chart, Voltage input type, No-voltage input type.

Up/Down-A (Command input), Up/Down-B (Individual input), Up/Down-C (Phase difference input), Up (Up input), Up/Down-D (Command input), Up/Down-E (Individual input), Up/Down-F (Phase difference input), Down (Down input).

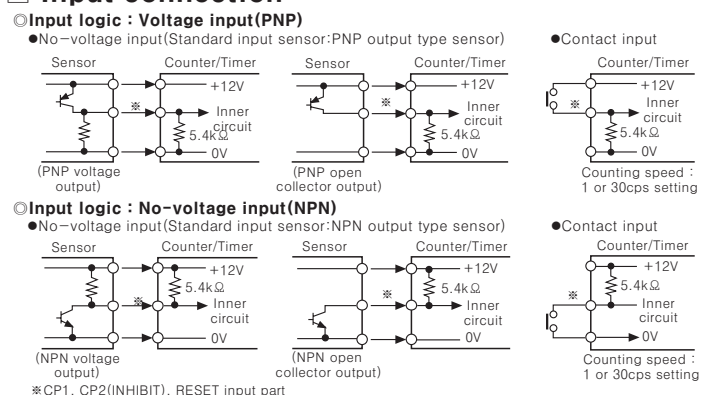
Timing diagrams for various input modes and SW1 settings.

*A: Over Min. signal width, B: Over 1/2 of Min. signal width.
Counting miss by one (±1) is occurred if the signal width of A or B is less than min. signal width.
*The above specification are changeable without notice anytime.

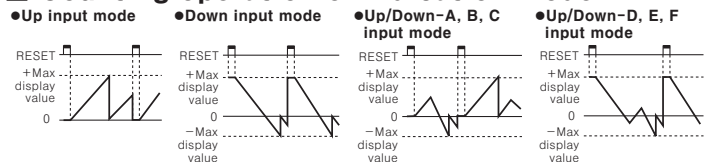
Specifications

Series	FX	FXH	FXL
Digit	4	6	4
Model	Double preset: FX4-2P Indication: FX4-1	Double preset: FX6-2P Indication: FX6-1	Double preset: FX4H-2P Indication: FX4H-1
Power supply	100-240VAC 50/60Hz AC/DC power: 12-24VDC 50/60Hz, 12-24VDC		
Allowable voltage range	90 to 110% of rated voltage		
Power consumption	Indication: Approx. 6VA, Single preset: Approx. 7VA, Double preset: Approx. 8VA (240VAC 50/60Hz) AC/DC power: Indication: Approx. 5.8VA, Single preset: Approx. 6.8VA, Double preset: Approx. 7.8VA (24VDC 50/60Hz) Indication: Approx. 2.7W, Single preset: Approx. 3.3W, Double preset: Approx. 3.8W (24VDC)		
Max. counting speed for CP1, CP2	Selectable 1cps/30cps/2kcps/5kcps by inner DIP switch		
Min. input signal width	RESET input, INHIBIT input: Approx. 20ms		
Input method	CP1, CP2 (INHIBIT) Input logic is selectable [Voltage input] Input impedance: 5.4kΩ, "H" level: 5-30VDC, "L" level: 0-2VDC [No-voltage input] Short-circuit impedance: Max. 1kΩ, Residual voltage: Max. 2VDC, Open-circuit impedance: Min. 100kΩ		
One-shot output time	1st output: 0.5sec., 2nd output: 0.05 to 5sec.		
Control output	Single preset type: SPDT(1c) Double preset type: 1st output SPDT(1c), 2nd output: SPDT(1c)		
Memory retention	10 years (EEPROM)		
External power supply	12VDC ±10% 50mA Max.		
Ambient temperature	-10 ~ 55°C (at non-freezing status)		
Storage temperature	-25 ~ 65°C (at non-freezing status)		
Ambient humidity	35 ~ 85%RH		
Approval	UL (100-240VAC 50/60Hz)		

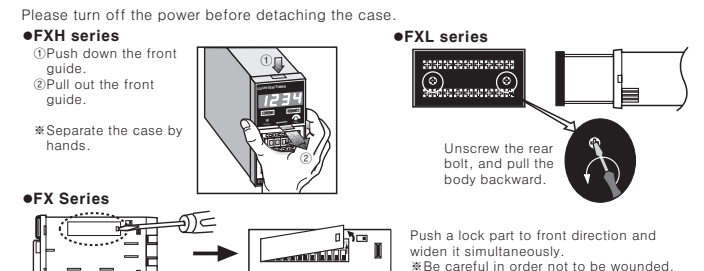
Input connection



Counting operation of indication model



Case & DIP switch detachment



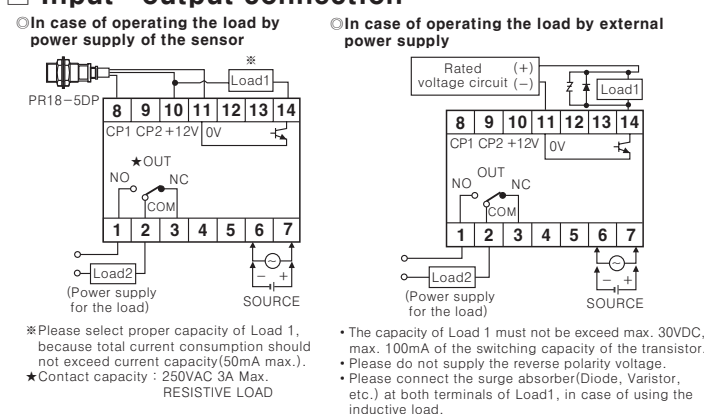
Output operation mode

One-shot output, Hold output, Operation after Count up.

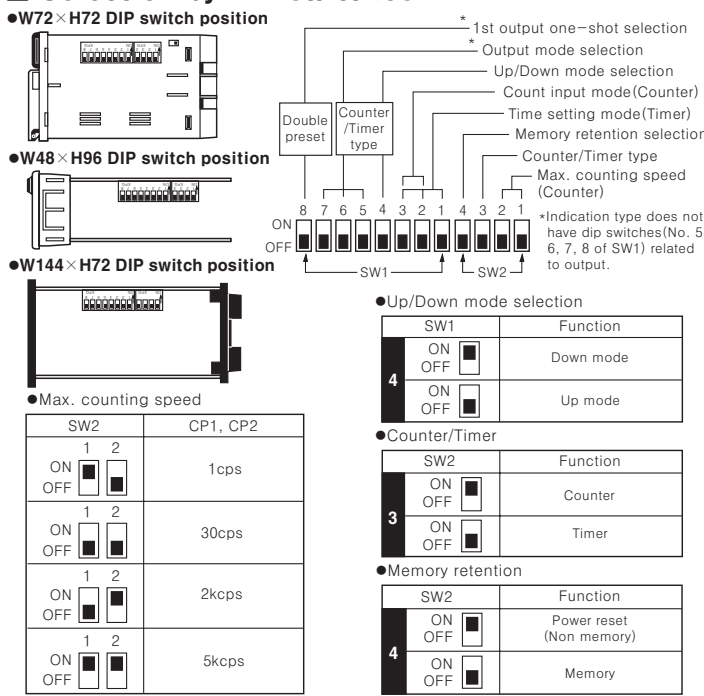
Output mode: Up, Up/Down-A, B, C mode; Down, Up/Down-D, E, F mode.

Timing diagrams for various output modes and SW1 settings.

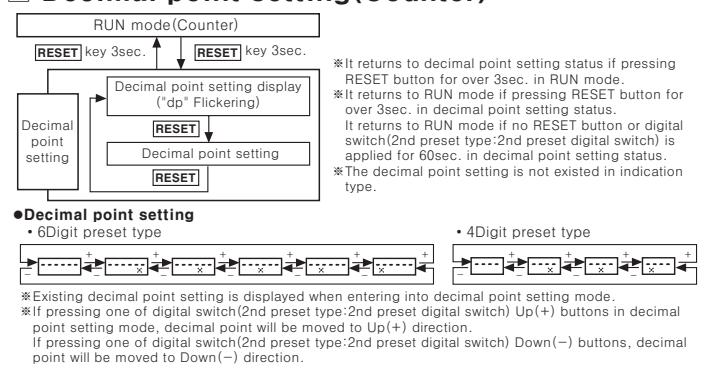
Input · output connection



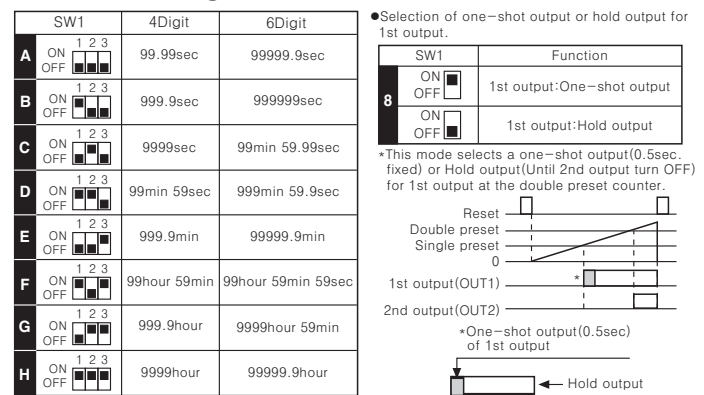
Selection by DIP switches



Decimal point setting (Counter)



Time setting mode (Timer)



Caution for using

- DIP switch setting: Please be sure to turn power OFF before changing Counter/Timer DIP switches setting.
- Error: Error display, Error contents, Return method.
- Unit sticker: The unit sticker is found at the inner box of FX/FXL series.
- Power: Input signal line, Shielded wire, Dielectric voltage, Do not use this unit at below places.
- Installation environment: Altitude Max. 2000m, Pollution Degree 2, Installation Category II.

Main products

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Satisfiable Partner For Factory Automation

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