

# CX Series

## INSTRUCTION MANUAL

TCD230003AA

Autonics

### Ordering Information

This is only for reference, the actual product does not support all combinations.  
For selecting the specified model, follow the Autonics webstie.

|    |   |   |   |   |   |   |
|----|---|---|---|---|---|---|
| CX | 6 | ① | - | ② | ③ | ④ |
|----|---|---|---|---|---|---|

- ① Size**  
S: DIN W 48 × H 48 mm  
M: DIN W 72 × H 72 mm
- ② Output**  
1P: 1-stage preset  
2P: 2-stage preset
- ③ Power supply**  
2: 24 VAC ~ ± 10 % 50 / 60 Hz,  
24 - 48 VDC ≒ ± 10 %  
4: 100 - 240 VAC ~ ± 10 % 50 / 60 Hz
- ④ Signal input method**  
No mark: voltage input (PNP), no-voltage  
input (NPN) selectable type  
F: free voltage input type

### Product Components

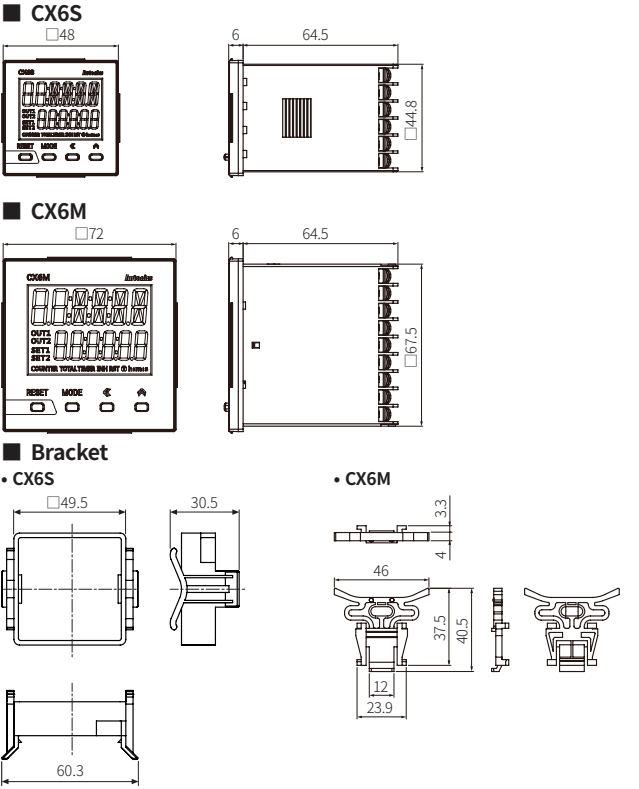
- Product (+ bracket)
- Instruction manual

### Sold Separately

- Terminal cover: RSA-COVER, RMA-COVER

### Dimensions

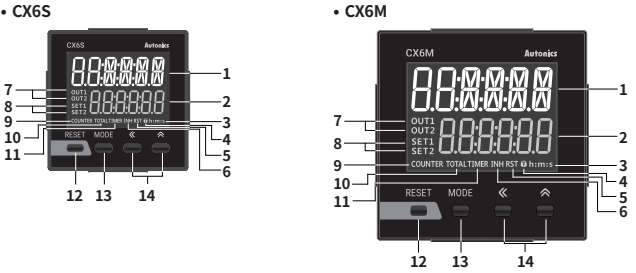
- Unit: mm, For the detailed drawings, follow the Autonics website.



**■ Panel cut-out**

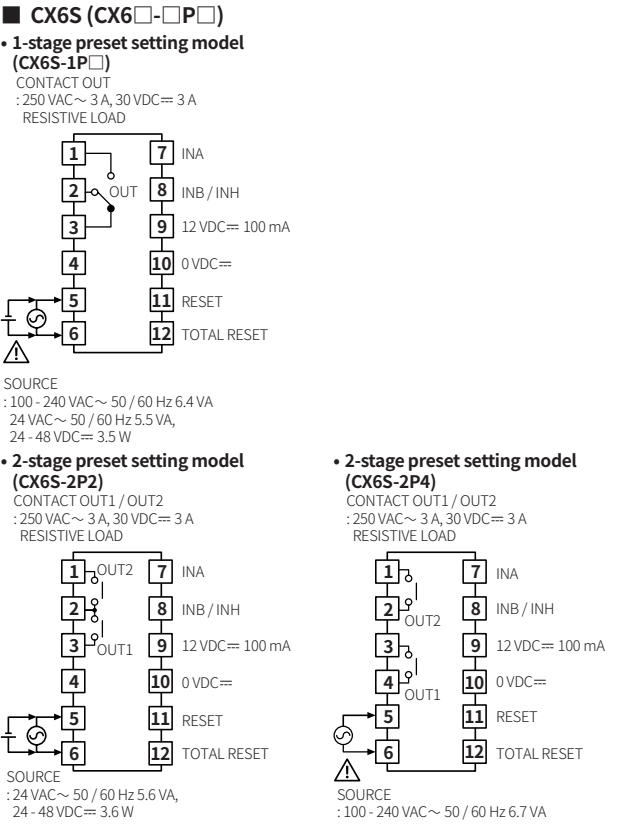
|      | A    | B    | C                                  | D                                  |
|------|------|------|------------------------------------|------------------------------------|
| CX6S | ≥ 65 | ≥ 65 | 45 <sup>+0.8</sup> <sub>-0.7</sub> | 45 <sup>+0.8</sup> <sub>-0.7</sub> |
| CX6M | ≥ 91 | ≥ 91 | 68 <sup>+0.7</sup> <sub>-0.6</sub> | 68 <sup>+0.7</sup> <sub>-0.6</sub> |

### Unit Descriptions

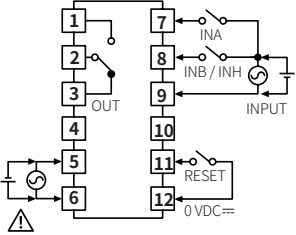


| No. | Part name                                         | Name plate      | Function                                                                                                                                                                        |
|-----|---------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Counting value display part (white)               | -               | RUN mode: Displays counting value, time progress value<br>Counter / Timer parameter group : Displays setting item                                                               |
| 2   | Setting value display part (green)                | -               | RUN mode: Displays preset value<br>Counter / Timer parameter group : Displays setting content                                                                                   |
| 3   | Time unit indicator                               | h:m:s           | Turns ON for time unit for timer                                                                                                                                                |
| 4   | Key LOCK indicator                                |                 | Turns ON for key lock setting                                                                                                                                                   |
| 5   | RESET input indicator                             | RST             | Turns ON for [RESET] key input or reset signal input.                                                                                                                           |
| 6   | INH indicator                                     | INH             | In timer operation - it turns ON for INB / INH or INHIBIT signal input                                                                                                          |
| 7   | Output indicator                                  | OUT1, OUT2      | Turns ON for the dedicated control output ON                                                                                                                                    |
| 8   | Preset value checking, changing indicator (green) | SET, SET1, SET2 | Turns ON when checking and changing preset value                                                                                                                                |
| 9   | Counter indicator                                 | COUNTER         | Turns ON for ounter operation                                                                                                                                                   |
| 10  | Total indicator                                   | TOTAL           | [CX6□-□P□ model]<br>In total counter display mode, it turns ON with the counter indicator                                                                                       |
| 11  | Timer indicator                                   | TIMER           | In timer operation -<br>Flashes: time progress / turns ON: stopping time                                                                                                        |
| 12  | RESET key                                         | [RESET]         | Reset the counting value,<br>Reset the total counter counting value                                                                                                             |
| 13  | MODE key                                          | [MODE]          | RUN mode ↔ Counter / Timer parameter group<br>Move to the next when the parameter setting<br>Return to run mode from function setting<br>check mode or preset value change mode |
| 14  | Setting key                                       | [◀] [▶]         | Enter preset value change mode and move digits<br>Preset value of preset value change mode and setting content of parameter group                                               |

### Connections

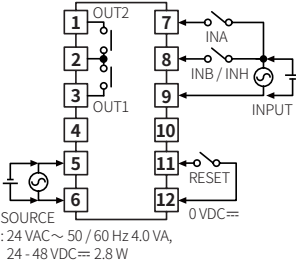


- CX6S (CX6□-□P□F)**
- 1-stage preset setting model (CX6S-1P□F)**  
CONTACT OUT : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD  
SIGNAL INPUT : 24 - 240 VAC ~ 50 / 60 Hz, 24 - 240 VDC ≒

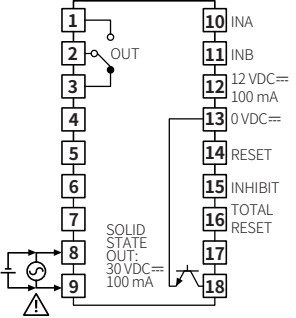


SOURCE : 100 - 240 VAC ~ 50 / 60 Hz 4.2 VA  
24 VAC ~ 50 / 60 Hz 3.6 VA,  
24 - 48 VDC ≒ 2.5 W

- 2-stage preset setting model (CX6S-2P2F)**  
CONTACT OUT1 / OUT2 : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD  
SIGNAL INPUT : 24 - 240 VAC ~ 50 / 60 Hz, 24 - 240 VDC ≒

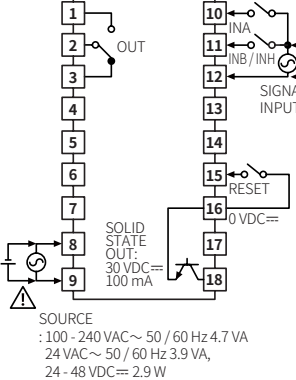


- CX6M (CX6□-□P□F)**
- 1-stage preset setting model (CX6M-1P□F)**  
CONTACT OUT : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD

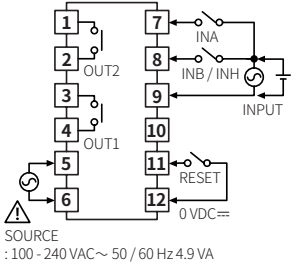


SOURCE : 100 - 240 VAC ~ 50 / 60 Hz 7.1 VA  
24 VAC ~ 50 / 60 Hz 6.2 VA,  
24 - 48 VDC ≒ 4 W

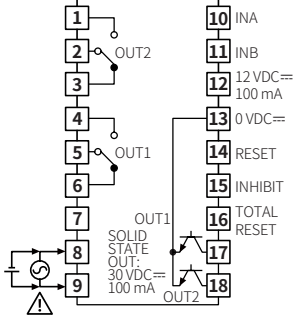
- CX6M (CX6□-□P□F)**
- 1-stage preset setting model (CX6M-1P□F)**  
CONTACT OUT : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD  
SIGNAL INPUT : 24 - 240 VAC ~ 50 / 60 Hz, 24 - 240 VDC ≒



- 2-stage preset setting model (CX6S-2P4F)**  
CONTACT OUT1 / OUT2 : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD  
SIGNAL INPUT : 24 - 240 VAC ~ 50 / 60 Hz, 24 - 240 VDC ≒

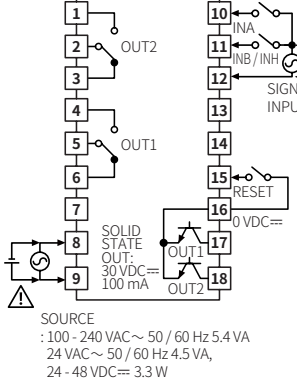


- 2-stage preset setting model (CX6M-2P□F)**  
CONTACT OUT1 / OUT2 : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD



SOURCE : 100 - 240 VAC ~ 50 / 60 Hz 7.5 VA  
24 VAC ~ 50 / 60 Hz 6.3 VA,  
24 - 48 VDC ≒ 4.1 W

- 2-stage preset setting model (CX6M-2P□F)**  
CONTACT OUT1 / OUT2 : 250 VAC ~ 3 A, 30 VDC ≒ 3 A  
RESISTIVE LOAD  
SIGNAL INPUT : 24 - 240 VAC ~ 50 / 60 Hz, 24 - 240 VDC ≒



### Safety Considerations

- Observe all ‘Safety Considerations’ for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

**⚠ Warning** Failure to follow instructions may result in serious injury or death.

- 01. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime / disaster prevention devices, etc.)**  
Failure to follow this instruction may result in personal injury, economic loss or fire.
- 02. Do not use the unit in the place where flammable / explosive / corrosive gas, humidity, direct sunlight, radiant heat, vibration, impact, or salinity may be present.**  
Failure to follow this instruction may result in explosion or fire.
- 03. Install on a device panel to use.**  
Failure to follow this instruction may result in fire or electric shock.
- 04. Do not connect, repair, or inspect the unit while connected to a power source.**  
Failure to follow this instruction may result in fire or electric shock.
- 05. Check ‘Connections’ before wiring.**  
Failure to follow this instruction may result in fire or electric shock.
- 06. Do not disassemble or modify the unit.**  
Failure to follow this instruction may result in fire or electric shock.

**⚠ Caution** Failure to follow instructions may result in injury or product damage.

- 01. When connecting the power input and relay output, use AWG 20 (0.50 mm<sup>2</sup>) cable or over, and tighten the terminal screw with a tightening torque of 0.74 to 0.90 N·m.**  
Failure to follow this instruction may result in fire or malfunction due to contact failure.
- 02. Use the unit within the rated specifications.**  
Failure to follow this instruction may result in fire or product damage.
- 03. Use a dry cloth to clean the unit, and do not use water or organic solvent.**  
Failure to follow this instruction may result in fire or electric shock.
- 04. Keep the product away from metal chip, dust, and wire residue which flow into the unit.**  
Failure to follow this instruction may result in fire or product damage.

### Cautions during Use

- Follow instructions in ‘Cautions during Use’.  
Otherwise, it may cause unexpected accidents.
- Power supply should be insulated and limited voltage / current or Class 2, SELV power supply device.
- Use the product, 0.1 sec after supplying power.
- When supplying or turning off the power, use a switch or etc. to avoid chattering.
- Install a power switch or circuit breaker in the easily accessible place for supplying or disconnecting the power.
- Keep away from high voltage lines or power lines to prevent inductive noise.  
In case installing power line and input signal line closely, use line filter or varistor at power line and shielded wire at input signal line.  
Do not use near the equipment which generates strong magnetic force or high frequency noise.
- This unit may be used in the following environments.  
- Indoors (in the environment condition rated in ‘Specifications’)  
- Altitude max. 2,000 m  
- Pollution degree 2  
- Installation category II

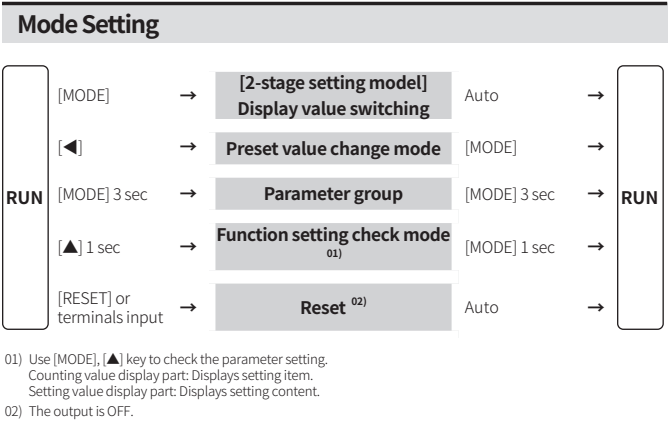
| Specifications                       |                                                                                                                                                                                                                                           |                   |                   |                   |
|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|
| Model                                | CX6S-1P□□                                                                                                                                                                                                                                 | CX6S-2P□□         | CX6M-1P□□         | CX6M-2P□□         |
| Display digits                       | 6-digit                                                                                                                                                                                                                                   |                   |                   |                   |
| Display method                       | 7-segment (1st, 2nd digits of counting value display: white, setting value display: green), 11-segment (the other digits of counting value display: white) LCD                                                                            |                   |                   |                   |
| Character size                       | W × H (unit: mm)                                                                                                                                                                                                                          |                   |                   |                   |
| Counting value                       | 4.1 × 10.1                                                                                                                                                                                                                                |                   | 6.2 × 15.2        |                   |
| Setting value                        | 3.3 × 8.1                                                                                                                                                                                                                                 |                   | 5 × 12.3          |                   |
| Counter                              | Count up, count down, count up / down                                                                                                                                                                                                     |                   |                   |                   |
| Counting range <sup>01)</sup>        | -99999 to 999999                                                                                                                                                                                                                          |                   |                   |                   |
| Timer                                | Count up, count down                                                                                                                                                                                                                      |                   |                   |                   |
| Repeat / SET / voltage / Temp. Error | CX6□-□P□: Power ON Start: ≤ ± 0.01 % ± 0.05 sec<br>Signal ON Start: ≤ ± 0.01 % ± 0.03 sec<br>CX6□-□P□F: Power ON Start: ≤ ± 0.01 % ± 0.08 sec<br>Signal ON Start: ≤ ± 0.01 % ± 0.06 sec                                                   |                   |                   |                   |
| Input logic (CX6□-□P□)               | Voltage input (PNP) - input impedance: 10.8 kΩ, [H]: 5 - 30 VDC≡, [L]: 0 - 2 VDC≡<br>No-voltage input (NPN) - short-circuit impedance: ≤ 1 kΩ, short-circuit residual voltage: ≤ 2 VDC≡                                                   |                   |                   |                   |
| Input logic (CX6□-□P□F)              | Free voltage input - INA (START), INB (INHIBIT) input, [H]: 24 - 240 VAC~ 50 / 60 Hz / 24 - 240 VDC≡ [L]: 0 - 10 VAC~ / VDC≡<br>No-voltage input - RESET input, short-circuit impedance: ≤ 1 kΩ, short-circuit residual voltage: ≤ 2 VDC≡ |                   |                   |                   |
| One-shot output time                 | 0.01 to 99.99 s                                                                                                                                                                                                                           |                   |                   |                   |
| Unit weight (packaged)               | Dependent on the model                                                                                                                                                                                                                    |                   |                   |                   |
| CX6□-□P4                             | ≈ 112 g (≈ 157 g)                                                                                                                                                                                                                         | ≈ 117 g (≈ 162 g) | ≈ 170 g (≈ 235 g) | ≈ 175 g (≈ 240 g) |
| CX6□-□P4F                            | ≈ 110 g (≈ 155 g)                                                                                                                                                                                                                         | ≈ 115 g (≈ 160 g) | ≈ 168 g (≈ 233 g) | ≈ 173 g (≈ 238 g) |
| CX6□-□P2                             | ≈ 111 g (≈ 156 g)                                                                                                                                                                                                                         | ≈ 116 g (≈ 161 g) | ≈ 169 g (≈ 234 g) | ≈ 174 g (≈ 239 g) |
| CX6□-□P2F                            | ≈ 109 g (≈ 154 g)                                                                                                                                                                                                                         | ≈ 114 g (≈ 159 g) | ≈ 167 g (≈ 232 g) | ≈ 172 g (≈ 237 g) |
| Certification                        | CE                                                                      |                   |                   |                   |

01) It varies depending on the setting of decimal points.

| Model                      | CX6S-□P□□                                       | CX6M-□P□□                                       |
|----------------------------|-------------------------------------------------|-------------------------------------------------|
| Contact control output     | Relay                                           |                                                 |
| Type (1-stage)             | SPDT (1c) × 1                                   | SPDT (1c) × 1                                   |
| Type (2-stage)             | SPST (1a) × 2                                   | SPDT (1c) × 2                                   |
| Capacity                   | ≤ 250 VAC~ 3 A,<br>≤ 30 VDC≡ 3 A resistive load | ≤ 250 VAC~ 3 A,<br>≤ 30 VDC≡ 3 A resistive load |
| Solid-state control output | NPN open collector                              |                                                 |
| Type (1-stage)             | -                                               | × 1                                             |
| Type (2-stage)             | -                                               | × 2                                             |
| Capacity                   | -                                               | ≤ 30 VDC≡, 100 mA                               |

| Voltage                              | AC voltage type                                                                            | AC / DC voltage type                                                 |
|--------------------------------------|--------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Power supply                         | 100 - 240 VAC~ 50 / 60 Hz                                                                  | 24 VAC~ 50 / 60 Hz,<br>24 - 48 VDC≡                                  |
| Permissible voltage range            | 90 to 110 % of rated voltage                                                               |                                                                      |
| Power consumption                    | Dependent on the model                                                                     |                                                                      |
| CX6S-1P□                             | ≤ 6.4 VA                                                                                   | AC: ≤ 5.5 VA, DC: ≤ 3.5 W                                            |
| CX6S-1P□F                            | ≤ 4.2 VA                                                                                   | AC: ≤ 3.6 VA, DC: ≤ 2.5 W                                            |
| CX6S-2P□                             | ≤ 6.7 VA                                                                                   | AC: ≤ 5.6 VA, DC: ≤ 3.6 W                                            |
| CX6S-2P□F                            | ≤ 4.9 VA                                                                                   | AC: ≤ 4.0 VA, DC: ≤ 2.8 W                                            |
| CX6M-1P□                             | ≤ 7.1 VA                                                                                   | AC: ≤ 6.2 VA, DC: ≤ 4 W                                              |
| CX6M-1P□F                            | ≤ 4.7 VA                                                                                   | AC: ≤ 3.9 VA, DC: ≤ 2.9 W                                            |
| CX6M-2P□                             | ≤ 7.5 VA                                                                                   | AC: ≤ 6.3 VA, DC: ≤ 4.1 W                                            |
| CX6M-2P□F                            | ≤ 5.4 VA                                                                                   | AC: ≤ 4.5 VA, DC: ≤ 3.3 W                                            |
| External power supply <sup>01)</sup> | ≤ 12 VDC≡ ± 10 % 100 mA                                                                    |                                                                      |
| Memory retention                     | ≈ 10 years (non-volatile semiconductor memory type)                                        |                                                                      |
| Insulation resistance                | ≥ 100 MΩ (500 VDC≡ megger)                                                                 |                                                                      |
| Dielectric strength                  | Between the charging part and the case: 3,000 VAC~ 50 / 60 Hz for 1 minute                 |                                                                      |
| Noise immunity                       | ± 2 kV square wave noise (pulse width: 1 μs) by the noise simulator                        | ± 500 V square wave noise (pulse width: 1 μs) by the noise simulator |
| Vibration                            | 0.75 mm double amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 1 hour   |                                                                      |
| Vibration (malfunction)              | 0.5 mm double amplitude at frequency of 10 to 55Hz in each X, Y, Z direction for 10 minute |                                                                      |
| Shock                                | 300 m/s <sup>2</sup> (≈ 30 G) in each X, Y, Z direction for 3 times                        |                                                                      |
| Shock (malfunction)                  | 100 m/s <sup>2</sup> (≈ 10 G) in each X, Y, Z direction for 3 times                        |                                                                      |
| Relay life cycle                     | Mechanical: ≥ 5,000,000 operations<br>Electrical: ≥ 100,000 operations                     |                                                                      |
| Ambient temp.                        | -10 to 55 °C, storage: -25 to 65 °C (no freezing or condensation)                          |                                                                      |
| Ambient humi.                        | 35 to 85 %RH, storage: 35 to 85 %RH (no freezing or condensation)                          |                                                                      |
| Protection rating                    | IP65 (front part, IEC standard)                                                            |                                                                      |

01) This is for the CX6□-□P□ model.



| Preset Value Change Mode                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Even if the mode of preset value change, input operation and output control will continue.<br>The preset value could be set to 0 and the output of 0 preset value occurs.<br>• Defaults: SET1 = 1000, SET2 = 5000<br>• The preset value could not be set to 0 depending on the output operation mode.<br>(When setting to 0, the value of setting value display part flashes 3 times.)<br>• Counting value display part: Displays present value,<br>Setting value display part: Displays preset value.<br>• Setting sequence: SET2 > SET1 > TOTAL* > TOTAL COUNTER RESET*<br>1. Press [◀] key to enter 2-stage preset value change mode.<br>2. Use [◀], [▲] key to set 2-stage preset value.<br>3. Press [MODE] key to enter 1-stage preset value change mode.<br>4. Use [◀], [▲] key to set 1-stage preset value.<br>5*. Press [MODE] key to confirm the total counter setting,<br>6*. Pressing the [MODE] key returns to the operation mode, and pressing the [RESET] key resets the total counter value.<br>* appear when the 2-stage preset setting model operates as a counter. |

| Display value switching of 2-stage preset setting model                                                                                                                                                                                                                     |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ■ Counter<br>Whenever pressing the [MODE] key, each 1-stage preset value, 2-stage preset value, total counter value displays consecutively.                                                                                                                                 |
| ■ Timer - Manual<br>Whenever pressing the [MODE] key, the setting value display part displays 1-stage preset value, 2-stage preset value in turn.<br>• In case of output operation mode: OND, OND.1, OND.2, OND.3, it is available.                                         |
| ■ Timer - Auto<br>1-stage / 2-stage preset value are automatically switched and displayed.<br>• In case of 1-stage / 2-stage preset setting model & output operation mode: FLK, NFD, NFD.1 or 2-stage preset setting model & output operation mode: INT.2, it is available. |

| Parameter Setting                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                            |                                                                                |                                                                                                                                                                                                                                      |                                                                                              |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| • Some parameters are activated / deactivated depending on the model or setting of other parameters. Refer to the description of each parameter.<br>• Counter counting / timer progress and output control are performed even when entering the function setting mode from run mode.<br>• [MODE] key: Saves current setting value and moves to the next parameter.<br>[◀] key: Checks fixed value / Changes setting digits.<br>[▲] key: Changes setting values. |                                                                            |                                                                                |                                                                                                                                                                                                                                      |                                                                                              |
| ■ Counter parameter group                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                            |                                                                                |                                                                                                                                                                                                                                      |                                                                                              |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Mark                                                                       | Defaults                                                                       | Setting range                                                                                                                                                                                                                        | Display condition                                                                            |
| C1-1 Counter / Timer <sup>01)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                             | $\overline{C} - \overline{t}$                                              | $\overline{C} \ o \ \overline{U} \ n \ \overline{t}$                           | <b>COUNT: counter,</b><br>TIME: timer                                                                                                                                                                                                | -                                                                                            |
| C1-2 Input operation mode <sup>01)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                        | $\overline{I} \ n \ \overline{M}$                                          | $\overline{U} \ d - \overline{C}$                                              | [CX6□-□P□ model]<br>UP, UP-1, UP-2, UP-3,<br>DN, DN-1, DN-2, DN-3,<br>UD-A: command input ,<br>UD-B: individual input,<br>UD-C: phase difference input                                                                               | -                                                                                            |
| C1-3 Output operation mode <sup>01)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                       | $\ o \ \overline{U} \ \overline{t} \ \overline{M}$                         | $\overline{F}$                                                                 | F, N, C, R, K, P, Q, A, S*, T*, D*                                                                                                                                                                                                   | *C1-2 Input operation mode: UD-A, UD-B, UD-C                                                 |
| C1-4 Max. Counting speed <sup>01) 02)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                     | $\overline{C} \ P \ 5$                                                     | $\overline{3} \ 0$                                                             | [CX6□-□P□ model]<br>30, 300, 1K, 5K, 1 cps<br>• Max. counting speed is when duty ratio of INA or INB input signal is 1:1. It is applied for INA, or INB input as same.                                                               | C1-3 Output operation mode <sup>03)</sup>                                                    |
| C1-5 OUT2 output time <sup>01) 04)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                        | $\ o \ \overline{U} \ \overline{t} \ 2$                                    | $\overline{H} \ o \ \overline{L} \ d$                                          | [2-stage preset setting model]<br>0.01 to 99.99 sec, Hold<br>• When 10 <sup>3</sup> digit is flashing, press [◀] key once and Hold appears.                                                                                          | C1-3 Output operation mode: C, R, K, P, Q, A <sup>05)</sup>                                  |
| C1-6 OUT1 output time <sup>01) 04)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                        | $\ o \ \overline{U} \ \overline{t} \ 1$                                    | $\overline{0} \ 0. \ 1 \ 0$                                                    | C1-3 Output operation mode: F, N, C, R, K, P, Q, A <sup>05)</sup>                                                                                                                                                                    | C1-3 Output operation mode: C, R, K, P, Q, A <sup>05)</sup>                                  |
| C1-7 OUT output time <sup>01) 04)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                         | $\ o \ \overline{U} \ \overline{t} \ . \overline{t}$                       | $\overline{H} \ o \ \overline{L} \ d$                                          | [1-stage preset setting model]<br>0.01 to 99.99 sec, Hold<br>• When 10 <sup>3</sup> digit is flashing, press [◀] key once and Hold appears.                                                                                          | C1-3 Output operation mode: C, R, K, P, Q, A <sup>05)</sup>                                  |
| C1-8 Counting value / preset value decimal point <sup>01)</sup>                                                                                                                                                                                                                                                                                                                                                                                                 | $\overline{d} \ P$                                                         | $\overline{-} \ \overline{-} \ \overline{-} \ \overline{-} \ \overline{-}$     | • Set the decimal point of the number displayed on the front of the product regardless of the prescale value.                                                                                                                        | -                                                                                            |
| C1-9 Min. RESET time <sup>02)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                             | $\overline{r} \ \overline{E} \ 5 \ \overline{E} \ \overline{t}$            | $\overline{2} \ 0$                                                             | [CX6□-□P□ model]<br>1, 20 ms                                                                                                                                                                                                         | -                                                                                            |
| C1-10 Input logic <sup>02)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                | $\overline{S} \ i \ \overline{G}$                                          | $\overline{n} \ P \ n$                                                         | [CX6□-□P□ model]<br>NPN, PNP                                                                                                                                                                                                         | -                                                                                            |
| C1-11 Prescale decimal point <sup>01)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                     | $\overline{S} \ \overline{C} \ \overline{L} \ d \ P$                       | $\overline{-} \ . \ \overline{-} \ \overline{-} \ \overline{-} \ \overline{-}$ | • Set the decimal point of the prescale value applied to the count value regardless of the decimal point displayed on the front.<br>• It can not be set smaller than the digits of C1-8 Counting value / preset value decimal point. | -                                                                                            |
| C1-12 Prescale value <sup>01) 06)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                         | $\overline{S} \ \overline{C} \ \overline{L}$                               | $\overline{1} \ 0 \ 0 \ 0 \ 0 \ 0$                                             | 0.00001 to 99999.9                                                                                                                                                                                                                   | -                                                                                            |
| C1-13 Total counter                                                                                                                                                                                                                                                                                                                                                                                                                                             | $\overline{t} \ o \ \overline{t} \ \overline{A} \ \overline{L}$            | $\ o \ \overline{F} \ \overline{F}$                                            | [CX6□-□P□ model]<br>ON, OFF<br>• When set to ON, the total counter counting value counts up to 999999 and counts cycles from 0.                                                                                                      | -                                                                                            |
| C1-14 Start Point value <sup>01)</sup>                                                                                                                                                                                                                                                                                                                                                                                                                          | $\overline{S} \ \overline{t} \ \overline{A} \ \overline{R} \ \overline{t}$ | $\overline{0} \ 0 \ 0 \ 0 \ 0 \ 0$                                             | 0.00000 to 999999                                                                                                                                                                                                                    | C1-2 Input operation mode: UP, UP-1, UP-2, UP-3, UD-A, UD-B, UD-C & C1-13 Total counter: OFF |
| C1-15 Memorize counting value                                                                                                                                                                                                                                                                                                                                                                                                                                   | $\overline{d} \ \overline{A} \ \overline{t} \ \overline{A}$                | $\overline{C} \ \overline{L} \ \overline{r}$                                   | CLR: Resets counting value when power is off.<br>REC: Memorizes counting value at the moment of power off. (memory retention)                                                                                                        | -                                                                                            |
| C1-16 Key LOCK                                                                                                                                                                                                                                                                                                                                                                                                                                                  | $\overline{L} \ o \ \overline{C} \ \overline{t}$                           | $\overline{L} \ o \ \overline{F} \ \overline{F}$                               | LOFF: Unlock key LOCK<br>LOC.1: Locks [RESET] key<br>LOC.2: Locks [◀], [▲] key<br>LOC.3: Locks [RESET], [◀], [▲] key                                                                                                                 | -                                                                                            |

01) When the setting value of the parameter is changed, all outputs are OFF and reset the current value when returning to the RUN mode.  
02) In case of CX6□-□P□F model, C1-4 Max. Counting speed = 20 cps, C1-9 Min. RESET time = 25 ms, C1-10 Input logic = NPN are fixed, so these parameters are not displayed.  
03) C1-3 Output operation mode: in case of D, 1, 30, 300, 1k cps selectable.  
C1-4 Max. counting speed: 5k, 10k cps & C1-3 Output operation mode: When D is set, the max. counting speed is automatically changed to 30 cps.  
04) In case of 1-stage preset setting model, C1-6 OUT1 output time is not displayed, C1-5 OUT2 output time is displayed as OUT.T.  
05) For other output operation modes, Hold is fixed.  
06) In the case of retained (hold) output, it displays the over value of prescale value.  
When SV is n multiplied by prescale value and the display value after hold output mode and SV are different, the prescale value is not the 1/n time of SV.

| ■ Timer parameter group                         |                                                             |                                                      |                                                                                                                                                                                                                                                                                                           |                                                                                                                |                                             |
|-------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|---------------------------------------------|
| Parameter                                       | Mark                                                        | Defaults                                             | Setting range                                                                                                                                                                                                                                                                                             | Display condition                                                                                              |                                             |
| T1-1 Counter / Timer <sup>(01)</sup>            | $\overline{C} - \overline{t}$                               | $\overline{C} \ o \ \overline{U} \ n \ \overline{t}$ | COUNT: counter, TIME: timer                                                                                                                                                                                                                                                                               | -                                                                                                              |                                             |
| T1-2 UP / DOWN mode <sup>(01)</sup>             | $\overline{U} - \overline{d}$                               | $\overline{U} \ P$                                   | UP: 0 → setting time<br>DN: setting time → 0                                                                                                                                                                                                                                                              | -                                                                                                              |                                             |
| T1-3 Output operation mode <sup>(01)</sup>      | $\ o \ \overline{U} \ \overline{t} \ \overline{M}$          | $\ o \ n \ d$                                        | [1-stage preset setting model]<br>OND, OND.1, OND.2, OND.3, FLK, FLK.1, FLK.2, INT, INT.1, OFD, NFD, NFD.1, INTG, TOTAL <sup>(02)</sup> , ONT.D<br>[2-stage preset setting model]<br>OND, OND.1, OND.2, OND.3, FLK, FLK.1, FLK.2, INT, INT.1, INT.2, OFD, NFD, NFD.1, INTG, TOTAL <sup>(02)</sup> , ONT.D | -                                                                                                              |                                             |
| T1-4 Time range <sup>(01)</sup>                 | $\overline{t} . \overline{R} \ n \ \overline{G}$            |                                                      |                                                                                                                                                                                                                                                                                                           | T1-3 Output operation mode: OND, OND.1, OND.2, OND.3, FLK.1, FLK.2, INT, INT.1, INT.2, OFD, INTG, TOTAL, ONT.D |                                             |
|                                                 |                                                             | Counting value display part                          | Setting value display part                                                                                                                                                                                                                                                                                |                                                                                                                | Range                                       |
|                                                 |                                                             | s (defaults)                                         | 999.999                                                                                                                                                                                                                                                                                                   |                                                                                                                | 0.001s to 999.999s                          |
|                                                 |                                                             | s                                                    | 9999.99                                                                                                                                                                                                                                                                                                   |                                                                                                                | 0.01s to 9999.99s                           |
|                                                 |                                                             | s                                                    | 99999.9                                                                                                                                                                                                                                                                                                   |                                                                                                                | 0.1s to 99999.9s                            |
|                                                 |                                                             | s                                                    | 999999                                                                                                                                                                                                                                                                                                    |                                                                                                                | 1s to 999999s                               |
|                                                 |                                                             | m : s                                                | 99:59.99                                                                                                                                                                                                                                                                                                  |                                                                                                                | 0.01s to 99m59.99s                          |
|                                                 |                                                             | m : s                                                | 999:59.9                                                                                                                                                                                                                                                                                                  |                                                                                                                | 0.1s to 999m59.9s                           |
| T1-5 Output ON time range <sup>(01) (03)</sup>  | $\ o \ n \ . \overline{R} \ n \ \overline{G}$               | m                                                    | 99999.9                                                                                                                                                                                                                                                                                                   | 0.1m to 99999.9m                                                                                               | T1-3 Output operation mode: FLK, NFD, NFD.1 |
|                                                 |                                                             | m                                                    | 999999                                                                                                                                                                                                                                                                                                    |                                                                                                                |                                             |
| T1-6 Output OFF time range <sup>(01) (03)</sup> | $\ o \ \overline{F} \ . \overline{R} \ n \ \overline{G}$    | h : m : s                                            | 99:59:59                                                                                                                                                                                                                                                                                                  | 1m to 99h59m59s                                                                                                |                                             |
|                                                 |                                                             | h : m                                                | 9999:59                                                                                                                                                                                                                                                                                                   | 1m to 9999h59m                                                                                                 |                                             |
|                                                 |                                                             | h                                                    | 99999.9                                                                                                                                                                                                                                                                                                   | 0.1h to 99999.9h                                                                                               |                                             |
| T1-7 OUT2 output time <sup>(01) (04)</sup>      | $\ o \ \overline{U} \ \overline{t} \ 2$                     | $\overline{H} \ o \ \overline{L} \ d$                | [2-stage preset setting model]<br>0.01 to 99.99 sec, Hold<br>• When 10 <sup>3</sup> digit is flashing, press [◀] key once and Hold appears.                                                                                                                                                               | T1-3 Output operation mode: OND, OND.1, OND.2, OND.3                                                           |                                             |
| T1-8 OUT1 output time <sup>(01) (04)</sup>      | $\ o \ \overline{U} \ \overline{t} \ 1$                     | $\overline{0} \ 0. \ 1 \ 0$                          |                                                                                                                                                                                                                                                                                                           | -                                                                                                              |                                             |
| T1-9 OUT output time <sup>(01) (04)</sup>       | $\ o \ \overline{U} \ \overline{t} \ . \overline{t}$        | $\overline{H} \ o \ \overline{L} \ d$                | [1-stage preset setting model]<br>0.01 to 99.99 sec, Hold<br>• When 10 <sup>3</sup> digit is flashing, press [◀] key once and Hold appears.                                                                                                                                                               | -                                                                                                              |                                             |
| T1-10 Input logic <sup>(05)</sup>               | $\overline{S} \ i \ \overline{G}$                           | $\overline{n} \ P \ n$                               | [CX6□-□P□ model]<br>NPN, PNP                                                                                                                                                                                                                                                                              | -                                                                                                              |                                             |
| T1-11 Input signal time <sup>(05)</sup>         | $\overline{I} \ n - \overline{t}$                           | $\overline{2} \ 0$                                   | [CX6□-□P□ model]<br>1, 20 ms<br>• Min. signal width of INA, RESET, INHIBIT, TOTAL RESET signal                                                                                                                                                                                                            | -                                                                                                              |                                             |
| T1-12 Memorize counting value                   | $\overline{d} \ \overline{A} \ \overline{t} \ \overline{A}$ | $\overline{C} \ \overline{L} \ \overline{r}$         | CLR: Resets counting value when power is off.<br>REC: Memorizes counting value at the moment of power off. (memory retention)                                                                                                                                                                             | -                                                                                                              |                                             |
| T1-13 Key LOCK                                  | $\overline{L} \ o \ \overline{C} \ \overline{t}$            | $\overline{L} \ o \ \overline{F} \ \overline{F}$     | LOFF: Unlock key LOCK<br>LOC.1: Locks [RESET] key<br>LOC.2: Locks [◀], [▲] key<br>LOC.3: Locks [RESET], [◀], [▲] key                                                                                                                                                                                      | -                                                                                                              |                                             |

01) When the setting value of the parameter is changed, all outputs are OFF and reset the current value when returning to the RUN mode.

02) For CX6□-□P□ model.

03) T.ON, T.OFF setting values indicate the ON / OFF time range of OUT2 / OUT.

04) In case of T1-3 Output operation mode: FLK.1, FLK.2, INTG, or T1-3 Output operation mode of 1-stage preset setting model: OND, OND.1, OND.2, OND.3, T1-8 OUT1 output time is not displayed, T1-7 OUT2 output time is displayed as OUT.T.

05) In case of CX6□-□P□F model, T1-10 Input logic = NPN, T1-11 Input signal time = 25 ms are fixed, so these parameters are not displayed.

| Error Display and Output Operation                                                                                                                                                                                             |                                       |                  |                                         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|------------------|-----------------------------------------|
| • When error occurs, the output turns OFF.<br>• When setting 1-stage preset value = 0, OUT1 output turns OFF.<br>In case of 2-stage preset value < 1-stage preset value, OUT1 output is ignored and only OUT2 output operates. | Display                               | Description      | Troubleshooting                         |
|                                                                                                                                                                                                                                | $\overline{E} \ r \ \overline{r} \ 0$ | Preset value = 0 | Change the preset value anything but 0. |
| Output Operation Mode                                                                                                                                                                                                          |                                       |                  |                                         |
| For the detailed timing chart for operation output mode, refer to the manual.                                                                                                                                                  |                                       |                  |                                         |