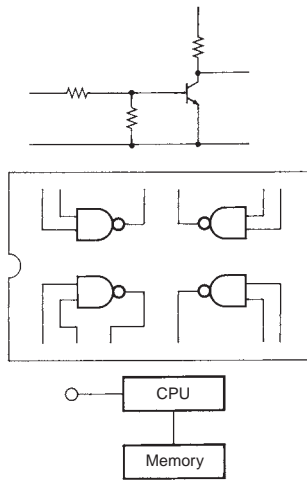


Counter Glossary

Electronic Counter

A counter which mainly consists of transistors, ICs, micro-computers, etc.

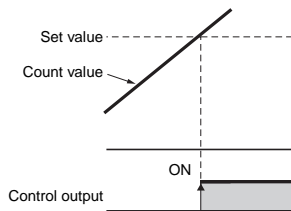


Electromagnetic Counter

A counter which performs counting by energizing or de-energizing the built-in electromagnet.

Preset Counter

A counter whose control output operates when it counts up to a set value.

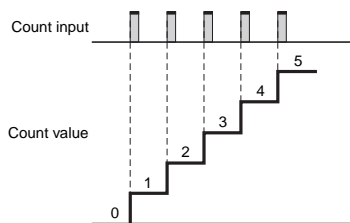


Totalizing Counter

A counter which indicates the total value of the counting inputs and is not provided with a control output.

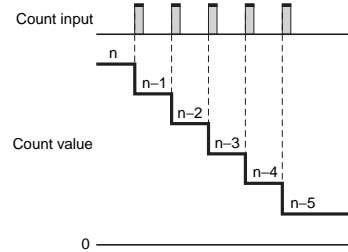
Addition (Up/Incrementing) Counter

A counter having an add input and thus capable of counting in an ascending order.



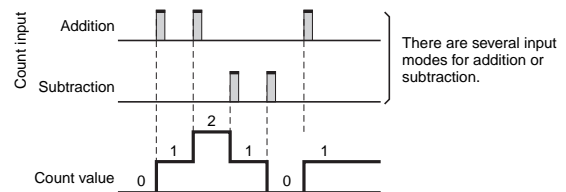
Subtraction (Down/Decrementing) Counter

A counter with a subtract input and thus capable of counting in descending order.



Up/Down Counter

A counter with the capability of counting in an ascending or descending order, depending on the up-down inputs. Also called a reversible counter.

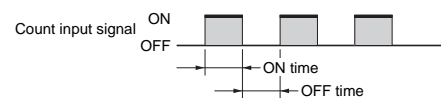


Maximum Counting Speed

The maximum counting speed at which the display or output section of the counter operates accurately without miscounting. The maximum counting speed is expressed in units of counts per second (cps).

ON/OFF Ratio

The ratio of the ON signal time of a given input signal to the OFF signal time of the same input signal. The maximum counting speed of each counter is determined by a counting input signal with an ON/OFF ratio of 1:1.

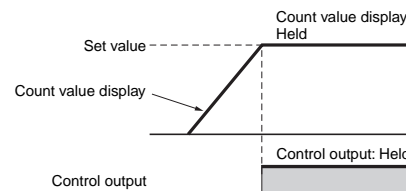


Operating Mode

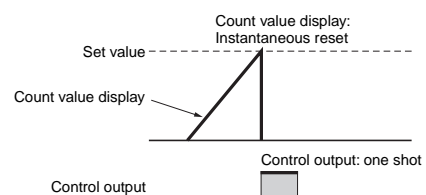
Control output patterns or display patterns that appear when counted up to the value set by the preset counter.

Examples:

N Mode



C Mode

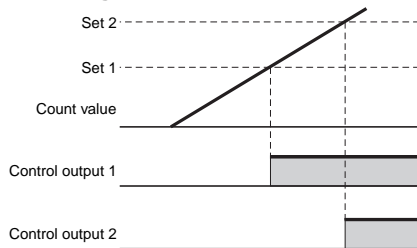


Note: Refer to the description of each product for information on operation in other modes.

Stage

Number of preset values that correspond with the number of control outputs.

Example: Two-stage Counter



Number of Digits

The maximum number of countable digits.

Display Method

The type of element used to display the counting results.

LED: Light emitting diode

LCD: Liquid crystal display

Note: Electromagnetic counters display results using a revolving mechanism with printed characters.

Externally Supplied Power

Power supplied from the counter to sensors that are used for counting or resetting. (Also called sensor power.)

Reset

To restore the counting, display and output sections of the counter, to their initial states.

Power Reset

To reset the counter by cutting off the operating supply voltage.

External Reset

To reset the counter by applying a specific signal to the reset input signal terminal.

Auto Reset

To reset the counter automatically with a signal generated from inside the counter.

Self-reset

To reset the counter by a signal generated by internal circuitry.

Manual Reset

To mechanically reset the counter by manual means.

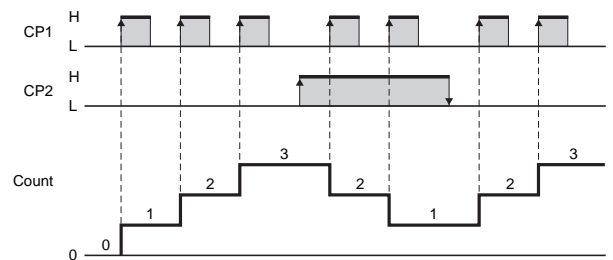
Electromagnetic Reset

To electromagnetically reset the counter by applying a reset signal.

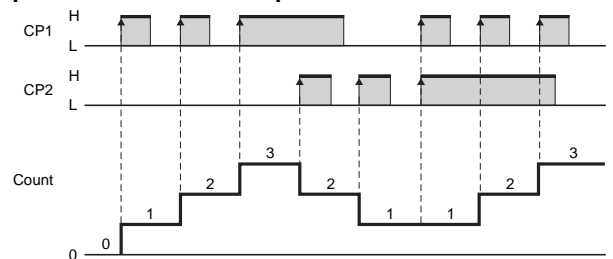
Counting Function

Refer to the following timing charts for the input modes of incremental, decrementing, and up/down (or reversible) Counters. (These charts focus on the up/down input mode.)

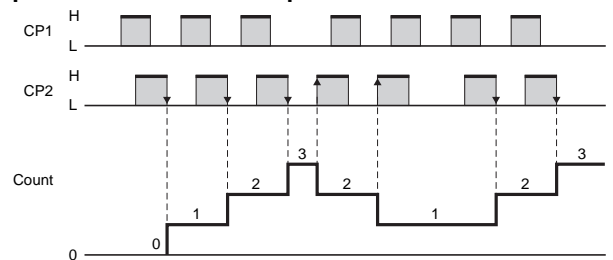
Up/Down A Command Input



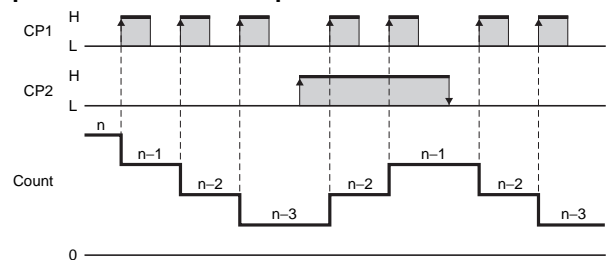
Up/Down B Command Input



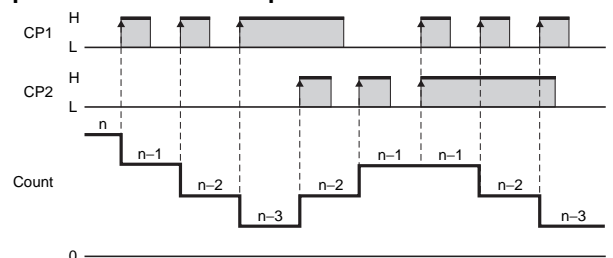
Up/Down C Quadrature Input



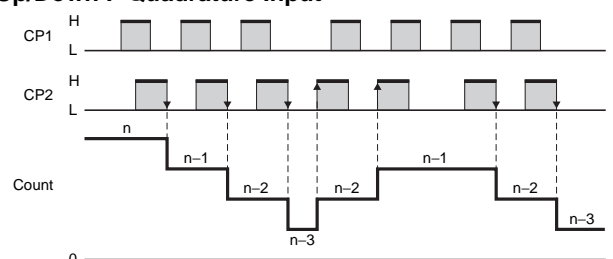
Up/Down D Command Input



Up/Down E Individual Input



Up/Down F Quadrature Input



Reference Material for Counters: Inrush Current

“---” indicates a constant current and therefore the corresponding values are omitted from the table. All the values are approximate values and should therefore only be used as a guide.

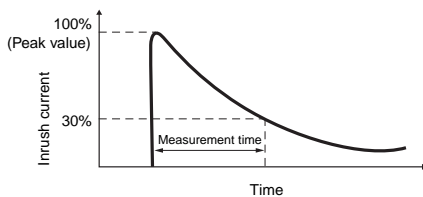
■ Counters

Model	Voltage	Applied voltage	Inrush current (peak value)	Time (see note)
H7AN series	100 to 240 VAC	264 VAC	23 A	1 ms
	12 to 24 VDC	26.4 VDC	15 A	4 ms
H7BX series	100 to 240 VAC	264 VAC	7.6 A	2 ms
	24 VAC/12 to 24 VDC	26.4 VAC	13.5 A	2 ms
H7CN series	100 to 240 VAC	264 VAC	800m A	1 ms
	12 to 48 VDC	52.8 VDC	400m A	1 ms
H7E series	---	---	---	---
H7CX-A□-N series	100 to 240 VAC	264 VAC	4.9 A	0.9 ms
	24AC/12 to 24 VDC	26.4 VAC	9.3 A	1.4 ms
		26.4 VDC	6.2 A	1.7 ms
H7CX-A□D-N series	24AC/12 to 24 VDC	26.4 VAC	9.2 A	1 ms
		26.4 VDC	6.3 A	1 ms
H7CX-A series (previous models)	100 to 240 VAC	264 VAC	5.8 A	0.7 ms
	24 VAC/12 to 24 VDC	26.4 VAC	10.4 A	1.2 ms
	12 to 24 VDC	26.4 VDC	6:00 AM	1.2 ms
H7CX-R series (previous models)	100 to 240 VAC	264 VAC	5.8 A	0.7 ms
	24 VAC/12 to 24 VDC	26.4 VAC	10.4 A	1.2 ms
H7CZ series	100 to 240 VAC	264 VAC	4.6 A	0.4 ms
		26.4 VAC	9.2 A	1 ms
		26.4 VDC	6.3 A	1 ms
H8BM-R series	24 VDC	26.4 VDC	1.6 A	12 ms

■ Cam Positioner

Model	Voltage	Applied voltage	Inrush current (peak value)	Time (see note)
H8PS-8 Series	24 VDC	26.4 VDC	1.9 A	23 ms
H8PS-16, -32 Series	24 VDC	26.4 VDC	3.1 A	12 ms

Note: The time of the inrush current is measured as shown in the following figure.



In the interest of product improvement, specifications are subject to change without notice.