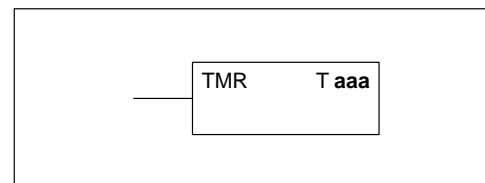


Timer, Counter, and Shift Register Instructions

Timer (TMR) DL330P Only

The Timer instruction used in the DL330P CPU provides a single input timer with a 0.1 second increment (0–999.9 seconds) in the normal operating mode, or a 0.01 second increment (0–99.99 seconds) in the fast timer mode with relay 770 on. The timer will time up to the maximum value (999.9 or 99.99) as long as the input logic remains on, once the input logic turns off the timer will reset to 0. There is no timer bit associated with this timer. Comparative boolean instructions must be used to monitor the current value of this timer.



Operand Data Type	D3-330 Range	D3-340 Range	D3-330P Range
	aaa	aaa	aaa
Time	—	—	600–677

In the following Timer example when input contact 000 is on timer 600 will time up. When input contact 000 goes off the timer will reset to zero. The comparative instruction will monitor the current value of the timer and energize when the current value of the timer is greater than or equal to the constant K30.

DirectSOFT Display



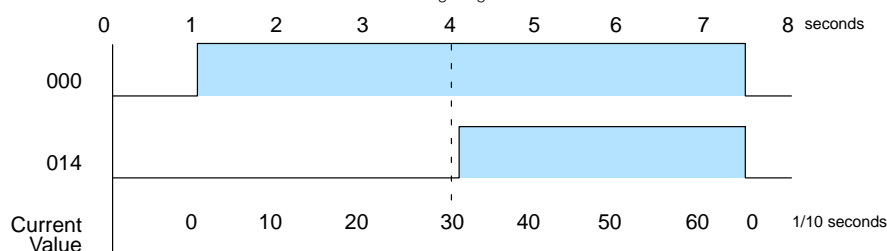
Handheld Programmer Keystrokes

```

STR SHF 0 ENT
TMR SHF 6 0 0 ENT
STR TMR SHF 6 0 0 ENT
SHF 3 0 ENT
OUT SHF 1 4 ENT

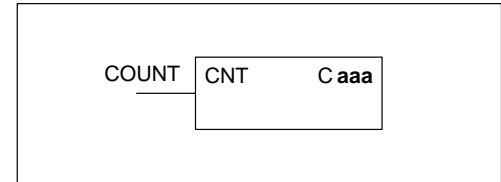
```

Timing Diagram



Counter (CNT) DL330P Only

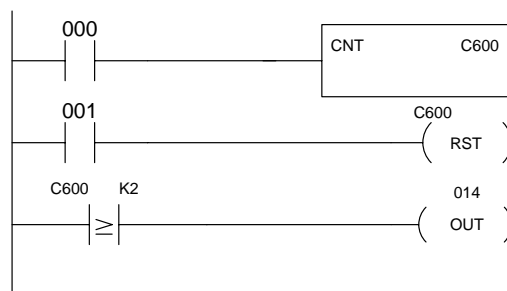
The Counter instruction used in the DL330P CPU provides a single input counter with a counting range of 0–9999. The counter will count up to 9999 and stop. The Reset Counter instruction must be used to reset this counter. There is no counter bit associated with this counter, so comparative boolean instructions must be used to monitor the current value of this counter.



Operand Data Type	D3–330 Range	D3–340 Range	D3–330P Range
	aaa	aaa	aaa
Counter	—	—	600–677

In the following Counter example when input contact 000 transitions from off to on counter 600 will increment by one. When input contact 001 is on the Reset Counter instruction will reset the counter to 0. The comparative instruction will monitor the current value of the counter and energize when the current value of the counter \geq the constant K2.

DirectSOFT Display



Handheld Programmer Keystrokes

```

STR SHF 0 ENT
CNT SHF 6 0 0 ENT
STR SHF 1 ENT
RST CNT SHF 6 0 0 ENT
STR CNT SHF 6 0 2 ENT
SHF 2 ENT
OUT SHF 1 4 ENT

```

