

What is a Normal Timer vs. What is a Watchdog Timer

Watchdog timer

A watchdog timer is a hardware timer that triggers a system reset or other corrective action code, due to some fault condition, such as a hanging, does not service the watchdog periodically ("petting the dog"). The intention is to bring the system back from the unresponsive state into normal operation. Watchdog timers are intended to protect versus unexpected events.

Normal timer

A hardware timer can either count down or up to a specific time (rolling over or compared to a specific value then can report status to software). Timers can be single shot run once (like an egg timer in a kitchen) or periodic (no need to reset). Their status can be polled or interrupt driven (you can check the time or it will interrupt you when an interest even occurs).