

Timers

Networks and Embedded Software

Module 4.3.4

by Wolfgang Neff

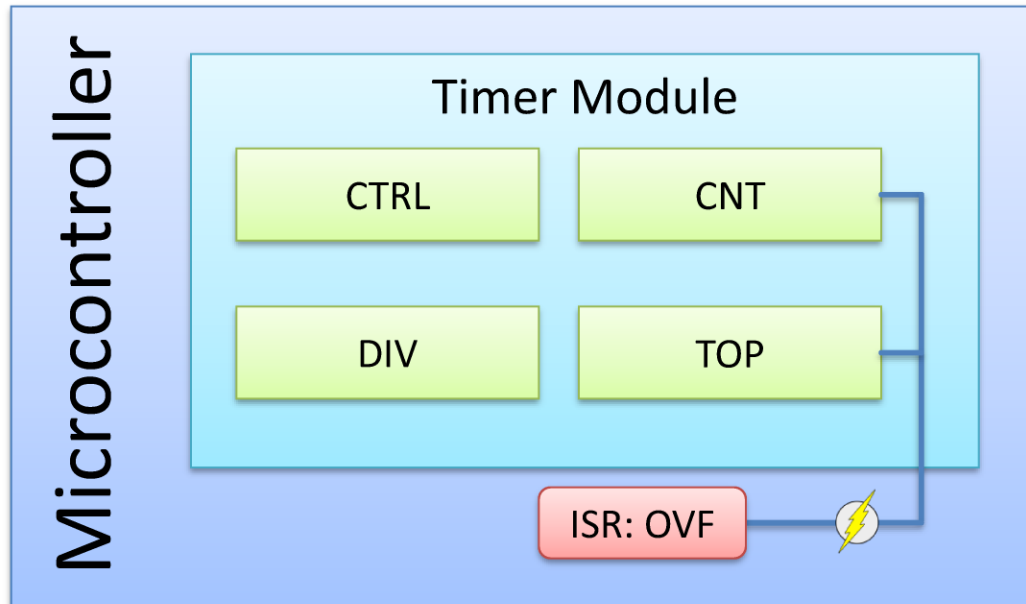
Timers (1)

- Application Area
 - Avoid active waits
 - Handle repetitive tasks



Timers (2)

- Module



Timers (3)

- Registers
 - Control
 - Top Register (TOP)
 - Specifies period
 - Prescaler Register (DIV)
 - Sets prescale value
 - Control Register (CTRL)
 - Enables timer
 - Enables interrupts

Timers (4)

- Registers (continued)
 - Status
 - Count Register (CNT)
 - Counter value

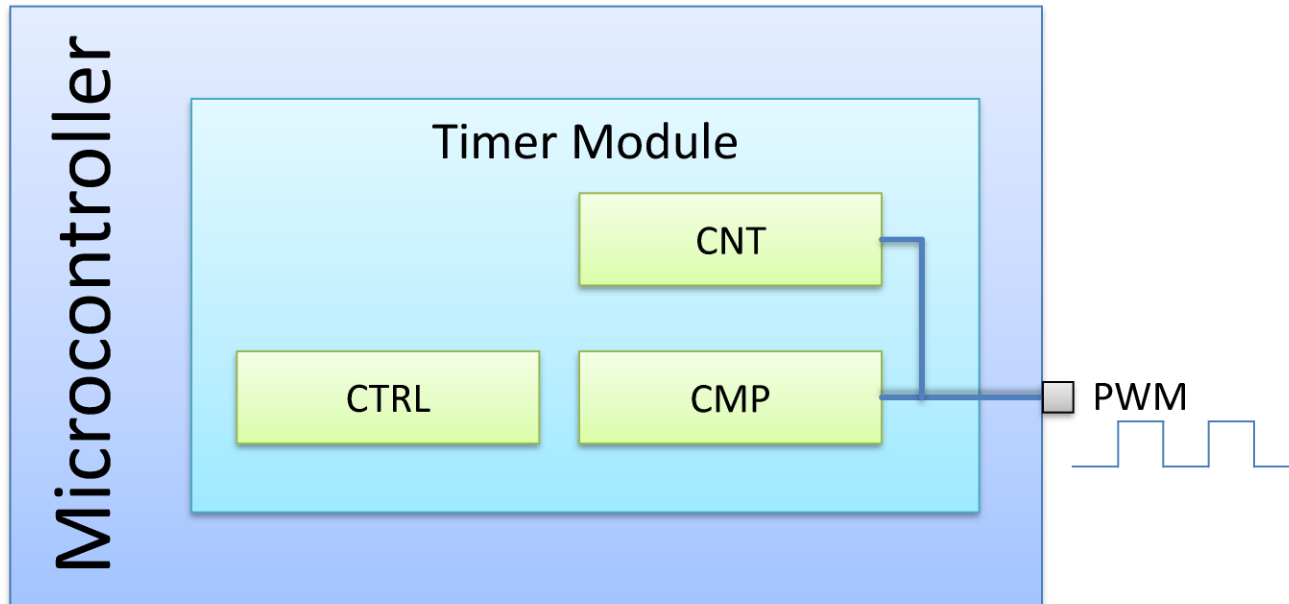
PWM (1)

- Application Area
 - Generate a pulse-width modulated signal
 - Control of power supply of inertial devices
 - Encode a message into a pulsing signal



PWM (2)

- Register Mapping



PWM (3)

- Registers
 - Control
 - Top Register (TOP)
 - Specifies PWM period
 - Prescaler Register (DIV)
 - Sets prescale value
 - Compare Register (CMP)
 - Specifies duty cycle

PWM (4)

- Registers (continued)
 - Control (continued)
 - Control Register (CTRL)
 - Enables timer
 - Enables compare register
 - Selects clock source
 - Select wave generation mode
 - Status
 - Count Register (CNT)
 - Counter value