

# TIMER Driver for AVR Microcontrollers

Version: 1<sup>st</sup>

Date: 26/10/2023

- API specification

## 1.1 Type definitions

<b>Name:</b>	Timer_channel
<b>Type:</b>	Enum
<b>Element:</b>	<i>timer0,timer1,timer2</i>
<b>Description:</b>	These are the return which timer you use

<b>Name:</b>	Timer_mode
<b>Type:</b>	Enum
<b>Element:</b>	<i>normal,pwm,ctc,fast_pwm</i>
<b>Description:</b>	These are the return which mode you use

<b>Name:</b>	Timer_clock
<b>Type:</b>	Enum
<b>Element:</b>	<i>t_noClock,t_prescaler_1,t_prescaler_8,t_prescaler_64,t_prescaler_256,t_prescaler_1024,external_falling,external_rising,</i> <i>t2_noClock=0,t2_prescaler_1,t2_prescaler_8,t2_prescaler_32,t2_prescaler_64,t2_prescaler_128,t2_prescaler_256,t2_prescaler_1024</i>

<b>Description:</b>	These are the return which clock you use
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<b>Name:</b>	TIMER_config
<b>Type:</b>	struct
<b>Element:</b>	<pre> Timer_channel channel; uint16 initial_value; Timer_clock clock; Timer_mode mode; Timer_clock prescaler; uint16 compare_value; </pre>
<b>Description:</b>	These are timer config (channel,mode,intial value, clock)

## 2. Function definitions

Service name:	Timer_init
Syntax:	<b>void</b> Timer_init( <b>const</b> TIMER_config * Config_Ptr)
Parameters (in):	pointer to <u>struct</u> (TIMER_congif)
Parameters (in/out):	none
Parameters (out):	none

Return value:	none
Description:	Initialize the Timer
NUM:	

Service name:	<b>Timer_deinit</b>
Syntax:	<b>void Timer_deinit</b> (Timer_channel channel);
Parameters (in):	channel of the timer -> timer 0,1,2
Parameters (in/out):	None
Parameters (out):	None
Return value:	None
Description:	<u>deinitialize</u> the Timer
NUM:	

Service name:	<b>Timer_setCallback</b>
Syntax:	<b>void Timer_setCallback</b> (Timer_channel channel, <b>void</b> (*a_ptr)( <b>void</b> ))
Parameters (in):	channel of the timer -> timer 0,1,2
Parameters (in/out):	None
Parameters (out):	pointer to Call Back function

Return value:	None
Description:	
NUM:	