TIMER

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# Introduction

This document is created to demonstrate Timer component and its used APIs also to demonstrate the dependant drivers for this module.

## Goals and Objectives

To provide demonstration of the used APIs and components to use microcontroller timer.

## Component APIs and variables

|  |  |  |  |
| --- | --- | --- | --- |
| ***API*** | ***Description*** | ***Input arguments*** | ***Return Value*** |
| **void**(\*Timer\_pfcallback)(**void**) | This variable is a pointer to function .it points to the call back function. | None | None |
| **void** **TIMER\_voidInit**(**void** (\*Copy\_pfcallback)(**void**)) | This function is used to initialize the timer through specific steps:  1-intialize(  Timer\_pfcallback) pointer.  2-set timer to ctc mode with no prescaler.  3-initialize timer counter with zero.  4-set compare value at OCR1A register.  5-enable timer interrupt.  6-enable global interrupt. | Pointer to function | None |
| ISR (TIMER1\_COMPA\_vect) | Timer ISR.it calls the call back function. | None | None |

Table 2: API description

## File Description

|  |  |
| --- | --- |
| **File Name** | **Description** |
| TIMER\_interface.h | It contains the prototypes of the APIs. |
| TIMER\_config.h | It contains the configuration parameters of the component. |
| TIMER\_private.h | It contains private configuration parameters. |
| TIMER\_prog.c | It contains the written code of the APIs. |

Table 5: Files Description

{END\_VAL\_SPECIFICATION\_DOC}