

# Motor\_Driver Class Reference

```
#include <Motor_Driver.h>
```

## Public Member Functions

<b>Motor_Driver</b> (PORT_t *p_port, uint8_t pinA, uint8_t pinB, uint8_t pinhA, uint8_t pinhB, TC0_t *t_ctrlA, TC0_t *t_ctrlB)
void <b>set_duty_cycle</b> (int8_t duty_cycle)

## Protected Attributes

uint8_t <b>pin1</b>
uint8_t <b>pin2</b>
PORT_t * <b>gp_port</b>
uint8_t <b>gpinA_bm</b>
uint8_t <b>gpinB_bm</b>
uint8_t <b>gpinhA_bm</b>
uint8_t <b>gpinhB_bm</b>
TC0_t * <b>gt_ctrlA</b>
TC0_t * <b>gt_ctrlB</b>
uint16_t <b>period</b>

## Detailed Description

This file contains code for a motor driver class for a board using two half bridge motor drivers. The motor's speed can be controlled through the set\_duty\_cycle function.

## Constructor & Destructor Documentation

◆ Motor\_Driver()

```
Motor_Driver::Motor_Driver ( PORT_t * p_port,
                             uint8_t  pinA,
                             uint8_t  pinB,
                             uint8_t  pinhA,
                             uint8_t  pinhB,
                             TC0_t * t_ctrlA,
                             TC0_t * t_ctrlB
                             )
```

This constructor creates a new motor driver.

**Parameters**

- p\_port** The port of the microcontroller that will be outputting PWM to motor driver
- pinA** The PWM output pin for one half bridge
- pinB** The PWM output pin for second half bridge
- pinhA** The enable pin for one half bridge
- pinhB** The enable pin for second half bridge
- t\_ctrlA** The timer/counter for the PWM for one half bridge
- t\_ctrlB** The timer/counter for the PWM for second half bridge

## Member Function Documentation

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### ◆ set\_duty\_cycle()

```
void Motor_Driver::set_duty_cycle ( int8_t duty_cycle )
```

This method sets the duty cycle of the motor.

#### Parameters

**duty\_cycle** The desired duty cycle of the motor, will saturate if input above 100 or below -100

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The documentation for this class was generated from the following files:

- Source/[Motor\\_Driver.h](#)
- Source/[Motor\\_Driver.cpp](#)

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