XRP-Arduino-Project

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Chapter 1

Class Index

1.1 Class List

Here are the classes, structs, unions and interfaces with brief descriptions:

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Chapter 2

File Index

2.1 File List

Here is a list of all documented files with brief descriptions:

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Chapter 3

Class Documentation

3.1 XRPMotor Class Reference

`#include <XRPMotor.h>`

Public Member Functions

- XRPMotor (uint8_t dir_pin, uint8_t speed_pin, bool inverted=false)
- void config ()
- void set_effort (double speed)
- void set_inverted (bool inverted)
- bool get_inverted () const

3.1.1 Detailed Description

A class to work with a motor plugged into the XRP

3.1.2 Constructor & Destructor Documentation

3.1.2.1 XRPMotor()

```
XRPMotor::XRPMotor (
            uint8_t dir_pin,
            uint8_t speed_pin,
            bool inverted = false)
```

Constructor for an XRP Motor plugged into the microcontroller (brain).

Parameters

dir_pin	The pin used to control the direction of the motor. This is also called the "phase" pin, and is labeled as PH on the board.
speed_pin	The pin used to control the speed of the motor. This is also called the "enable" pin, and is labeled as EN on the board.
inverted	(Optional) Whether or not the motor should be inverted. By default, the value of `inverted` is set to `false`.

3.1.3 Member Function Documentation

3.1.3.1 config()

```
void XRPMotor::config ()
```

Configures the hardware for your motor and sets up the pin modes. You *MUST* call this method at least once (preferably in `setup`).

3.1.3.2 get_inverted()

```
bool XRPMotor::get_inverted () const
```

Gets the inversion state of the motor.

Returns

The current inversion state of the motor. A value of `true` means that the motor is inverted.

3.1.3.3 set_effort()

```
void XRPMotor::set_effort (
            double speed)
```

Sets the speed of the motor. A positive speed causes the motor to spin in the forwards direction, and vice versa for negative speeds.

Parameters

speed	The speed to set the motor to, between -1.0 and 1.0

3.1.3.4 set_inverted()

```
void XRPMotor::set_inverted (
            bool inverted)
```

Sets the inversion state of the motor.

Parameters

inverted	Whether or not the motor should be inverted. A value of `true` causes the motor to be inverted.

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

- xrp-arduino/src/XRPMotor.h
- xrp-arduino/src/XRPMotor.cpp

Chapter 4

File Documentation

4.1 XRPMotor.h

```
00001 #ifndef _XRPMOTOR_H_
00002 #define _XRPMOTOR_H_
00003
00004 #include "Arduino.h"
00005 #include <stdint.h>
00006
00010 class XRPMotor {
00011  public:
00024   XRPMotor(uint8_t dir_pin, uint8_t speed_pin, bool inverted = false);
00025
00030   void config();
00031
00038   void set_effort(double speed);
00039
00046   void set_inverted(bool inverted);
00047
00054   bool get_inverted() const;
00055
00056  private:
00057   uint8_t _dir_pin;
00058   uint8_t _speed_pin;
00059   bool _inverted;
00060   void _set_direction(uint8_t direction);
00061 };
00062
00063 #endif  // #ifndef _XRPMOTOR_H_
```

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