WheelSpeed Class Reference

Header for a class that implements a hall effect sensor to measure wheel speed. More...

`#include <WheelSpeed.h>`

Public Member Functions

	WheelSpeed (uint8_t triggers) Constructor which creates and initializes a wheel speed object. More...
void	**calc** () Update the current time and previous time to calculate the wheel speed. More...
float	**get** () Return the wheel speed in rotations per second. More...

Detailed Description

Header for a class that implements a hall effect sensor to measure wheel speed.

This class allows the user to implement a hall effect sensor to meausre wheel speed. It relies on the user to set up an interrupt service routine to call the calculate function on the rising or falling edge of the signal from a hall effect sensor measuring wheel speed.

Constructor & Destructor Documentation

◆ WheelSpeed()

WheelSpeed::WheelSpeed (uint8_t triggers)

Constructor which creates and initializes a wheel speed object.

This constructor creates an wheel speed object with the given number of triggers. It saves the number of triggers and initializes the "previous" and "current" times.

Parameters

triggers The number of triggers per wheel revolution.

Member Function Documentation

◆ calc()

void WheelSpeed::calc ( )

Update the current time and previous time to calculate the wheel speed.

This function stores the "current" time as the previous time and assign the current time to current time. These values can be used to calculate the wheel speed, but this calculation is left until the **get()** function is called to minimize the time spent in the interrupt service routing.

◆ get()

float WheelSpeed::get ( )

Return the wheel speed in rotations per second.

This function calculates the wheel speed using the stored previous time and stored current time. The time between triggers is multipled by the number of triggers to calculate the time required for one revolution in microseconds. The constant 1E6 is divided by this time to get rotations per second.

Returns

The wheel speed in rotations per second as a float.

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

- **WheelSpeed.h**
- **WheelSpeed.cpp**