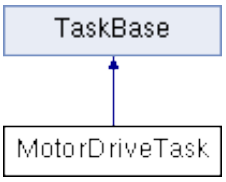
MotorDriveTask Class Reference

Implements a task to control the motor. More...

`#include <MotorDriveTask.h>`

Inheritance diagram for MotorDriveTask:



Public Member Functions

	MotorDriveTask (const char *a_name, unsigned portBASE_TYPE a_priority, size_t a_stack_size, **emstream** *p_ser_dev) Construct a MotorDrive task. More...
void	**run** (void) The run method of the MotorDrive task that is repeatedly called by the RTOS scheduler. More...

- **Public Member Functions inherited from TaskBase**

Additional Inherited Members

- **Static Public Member Functions inherited from TaskBase**
- **Protected Member Functions inherited from TaskBase**
- **Protected Attributes inherited from TaskBase**

Detailed Description

Implements a task to control the motor.

This class is an extension of `TaskBase`. The purpose of the class is to interface with the motor driver to control the direction and operating condition of the brushed DC motor.

Constructor & Destructor Documentation

MotorDriveTask()

```
MotorDriveTask::MotorDriveTask ( const char *                a_name,
                                 unsigned portBASE_TYPE      a_priority,
                                 size_t                      a_stack_size,
                                 emstream *                  p_ser_dev
                               )
```

Construct a MotorDrive task.

Constructor which creates and initializes a MotorDrive task object.

This constructor sets up the task name, priority, stack size, and serial stream.

Parameters

a_name	A character string which will be the name of this task
a_priority	The priority at which this task will initially run (default: 0)
a_stack_size	The size of this task's stack in bytes (default: `configMINIMAL_STACK_SIZE`)
p_ser_dev	Pointer to a serial device (port, radio, SD card, etc.) which can be used by this task to communicate (default: NULL)

This constructor creates a FreeRTOS task with the given task run function, name, priority, and stack size. Its purpose is to set the appropriate motor driver pins depending on the PWM command, and shut down the motor if an unsafe condition was detected.

Parameters

a_name	A character string which will be the name of this task
a_priority	The priority at which this task will initially run (default: 0)
a_stack_size	The size of this task's stack in bytes (default: `configMINIMAL_STACK_SIZE`)
p_ser_dev	Pointer to a serial device (port, radio, SD card, etc.) which can be used by this task to communicate (default: NULL)

Member Function Documentation

◆ run()

void MotorDriveTask::run (void) virtual

The run method of the MotorDrive task that is repeatedly called by the RTOS scheduler.

The `run()` function for the MotorDrive task.

This method is called by the RTOS scheduler. The function sets the IN pins on the motor driver to define the direction of the motor, depending on the sign of the PWM signal. If there's an unsafe condition, the motor driver will be set to BRAKE mode by pulling the IN pins low.

Implements **TaskBase**.

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

- DoxygenFiles/**MotorDriveTask.h**
- DoxygenFiles/MotorDriveTask.cpp
