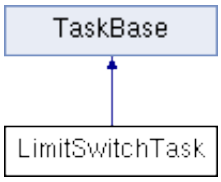
LimitSwitchTask Class Reference

Implements a task to determine whether or not the system is safe. More...

`#include <LimitSwitchTask.h>`

Inheritance diagram for LimitSwitchTask:



Public Member Functions

	LimitSwitchTask (const char *a_name, unsigned portBASE_TYPE a_priority, size_t a_stack_size, **emstream** *p_ser_dev) Construct a LimitSwitch task. More...
void	**run** (void) The run method of the LimitSwitch 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 determine whether or not the system is safe.

This class is an extension of `TaskBase`. The purpose of the class is to stop the motor if a limit switch is triggered, meaning the system is currently in an unsafe condition.

Constructor & Destructor Documentation

◆ LimitSwitchTask()

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

Construct a LimitSwitch task.

Constructor which creates and initializes a LimitSwitch 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 alarm the system of an unsafe condition if a limit switch drives a digital pin low.

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 LimitSwitchTask::run (void) virtual

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

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

This method is called by the RTOS scheduler. The function reads a GPIO pin and triggers an unsafe condition if the pin is pulled low. The condition is updated in the p_safe shared variable.

Implements **TaskBase**.

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

- DoxygenFiles/**LimitSwitchTask.h**
- DoxygenFiles/LimitSwitchTask.cpp
