

# MOTOR\_module

## API DESIGN TABLE

FUNCTION NAME	MOTOR_init			
ARGUMENTS	INPUT	Name	MOTOR_config	
		Type		
		Description	Selects motor set, connected pins and pwm channel	
	OUTPUT	NONE		
	INPUT/OUTPUT	NONE		
RETURN	E_OK	0		
	E_NOK	1		
DESCRIPTION	<u>Initialize a specified set of motors</u>			

FUNCTION NAME	MOTOR_start		
ARGUMENTS	INPUT	Name	MOTOR_id
		Type	MOTOR_idTypeDef
		description	Selects a specified motor set
		Name	MOTOR_speed
		Type	U8
		description	Motor speed in m/s
		Name	MOTOR_accTime
		Type	U8
		description	Sets the time required to accelerate
		Name	MOTOR_direction
		Type	MOTOR_dirTypeDef
		description	Selects the required direction
	OUTPUT	NONE	
	INPUT/OUTPUT	NONE	
RETURN	E_OK	0	
	E_NOK	1	

DESCRIPTION	Starts acceleration or deceleration to a certain speed in a specified time and direction.
-------------	---

FUNCTION NAME	MOTOR_STOP												
ARGUMENTS	INPUT			Name	MOTOR_id								
				Type	MOTOR_idTypeDef								
				description	Selects a specified motor set								
				Name	MOTOR_accTime								
				Type	U8								
				description	Sets the time required to accelerate								
			OUTPUT	NONE									
			INPUT/OUTPUT	NONE									
			RETURN	E_OK	0								
	E_NOK	1											
DESCRIPTION	Stop a certain motor in a certain time												

## Data type table

Name	MOTOR_initTypeDef			
Type	Structure			
Elements		Name	MOTOR_ID	
		Type	MOTOR_idTypeDef	
		Description	SPECIFIES THE DESIRED MOTOR TO CONTROL	
		Name	MOTOR_pins	
		Type	Array of MOTR_portPin	
		Description	Select the connected pins to MOTOR. This array contains 2 PINS FOR EVERY SET TO INTERFACE WITH H-BRIDGE	
		Name	MOTOR_pwmChannel	
		Type	MOTOR_pwmChannelTypeDef	
		Description	Selects a certain channel for a motor set of two motors	
	mDescription	Configuration		

Name	MOTOR_idTypeDef		
Type	Enumeration		
Elements	MOTOR_SET_ONE	1	
	MOTOR_SET_TWO	2	
description	Select which set of motors to control		

Name	MOTOR_pwmChannelTypeDef		
Type	Enumeration		
Elements	PWM_CHANNEL_ONE	1	
	PWM_CHANNEL_TWO	2	
description	Select which PWM channel to use		

Name	MOTOR_dirTypeDef		
Type	Enumeration		
Elements	MOTOR_FORWARD	1	
	MOTOR_BACKWARD	2	
	MOTOR_RIGHT	3	
	MOTOR_LEFT	4	
description	Select which PWM channel to use		

Name	MOTOR_portPin		
Type	Structure		
Elements	PIN	Name	PIN
		Type	DIO_pinTypeDef
		Description	SPECIFIES THE GPIO PIN TO BE CONFIGURED
	PORT	Name	PORT
		Type	DIO_portTypeDef
		Description	Select if the pin is output or input
Description	Selects a specified pin for the MOTOR		