gripper3f_control

V1.0

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Chapter 1

Class Documentation

1.1 Gripper3f Class Reference

This class controls the 3-finger robotiq gripper.

`#include <gripper3f_control.h>`

Public Member Functions

- Gripper3f ()
- void gripper_statusCallback (const robotiq_s_model_control::SModel_robot_input::ConstPtr &msg)
- bool init ()
- void close (int tolerance=2)
- void open (int p=0)
- void moveto (int goal, int tolerance=1)
- void setMode (int m)
- void setSpeed (int speed)
- void setForce (int force)
- int getMode ()
- int getForce ()
- int getSpeed ()
- int getPose ()

1.1.1 Detailed Description

This class controls the 3-finger robotiq gripper.

This class uses rostopics SModelRobotInput and SModelRobotOut to control the s-model robotiq gripper. This class subscribes to SmodelRobotInput in order to retrieve gripper's status information and publishes commands to the S↩ ModelOutput topic. Boost and robotiq_s_model_control are components required.

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Definition at line 19 of file gripper3f_control.h.

1.1.2 Constructor & Destructor Documentation

1.1.2.1 Gripper3f::Gripper3f ( )

The constructor initializes the subscriptor and publisher functions. Advertices the SModelRobotInput. Resizes vectors.

1.1.3 Member Function Documentation

1.1.3.1 void Gripper3f::close (int *tolerance* = 2)

This function closes the gripper according to the different mode in which the gripper is set.

Parameters

(Optional)	tolerance its a position goal interval +/- tolerance with respect to goal position (default 2)

1.1.3.2 int Gripper3f::getForce ( )

Gets the current gripper's force

Returns

int 0-255 see setForce()

1.1.3.3 int Gripper3f::getMode ( )

Gets the current gripper's mode

Returns

int 0-3 see setMode()

1.1.3.4 int Gripper3f::getPose ( )

Gets the current gripper's position

Returns

int 0-255 see moveto()

1.1.3.5 int Gripper3f::getSpeed ( )

Gets the current gripper's speed

Returns

int 0-255 see setSpeed()

1.1.3.6 void Gripper3f::gripper_statusCallback (const robotiq_s_model_control::SModel_robot_input::ConstPtr & *msg*)

This is the regular Callback from a ros node, this function updates the data vector that stores the gripper status.

Parameters

msg	is the message type the nodes subscribes to: const robotiq_s_model_control::SModel_robot_input::ConstPtr&

1.1.3.7 bool Gripper3f::init ( )

The init function must be executed at first. It resets the gripper and executes the initialization routine. This function overrides other configured parameters previously defined. Once the init routine is done the gripper will move.

Returns

returns true when the routine is executed succesfully

1.1.3.8 void Gripper3f::moveto (int *goal,* int *tolerance* = `1`)

This function moves the gripper to a given position between 0-255 and also has an optional tolerance position parameter executes the trayectory and waits until the goal is reached. Must be called after init()

Parameters

goal	0-255 where 0 is totally open and 255 totally closed
tolerance	(optional) tolerance interval where +/-tolerance whith respect goal position is allowed

1.1.3.9 void Gripper3f::open (int *p* = `0`)

This function opens the gripper according to the different mode in which the gripper is set. Must be called after init()

Parameters

(Optional)	p p=1 for not printing messages otherwise 0 (default 0)

1.1.3.10 void Gripper3f::setForce (int *force*)

This function sets gripper's force

Parameters

int	force 0-255 where 255 is max force (default 100)

1.1.3.11 void Gripper3f::setMode (int *m*)

Sets four different gripper's mode. Must be called after init() 0:basic mode 1:pinch mode 2:wide mode 3:scissors mode

Parameters

int	mode 0-3 according desired mode (default basic mode)

1.1.3.12 void Gripper3f::setSpeed (int *speed*)

This function sets gripper's speed

Parameters

int	speed 0-255 where 255 is max speed (default 150)

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

- /home/ctai/repos/lenny_routines/src/code_docu/include/gripper3f_control.h