JSK Enshu robot_programming Euslisp Manual
リファレンスマニュアル

平成 26 年 11 月 30 日

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第 I 部 robot_programming Models

turtlebot-with-sensors-robot [クラス]

:super **turtlebot-robot**
:slots sensors bumper-sensors

:bumper-sensors *nil* [メソッド]

Returns bumper sensors.

:bumper-sensor *sensor-name* [メソッド]

Returns bumper sensor of given name

:init *&rest args &key (name turtlebot-with-sensors-robot)* [メソッド]
:simulate *objs* [メソッド]

dxl-7dof-arm-robot [クラス]

:super **robot-model**
:slots jc0 jc1 jc2 jc3 jc4 jc5 jc6

:arm *&rest args* [メソッド]

Accessor for arm methods.

:reset-pose *nil* [メソッド]

Reset pose.

:reset-pose2 *nil* [メソッド]

Reset pose2.

:tuckarm-pose *nil* [メソッド]

Folding arm pose.

:tuckarm-pose2 *nil* [メソッド]

Folding arm pose2.

:inverse-kinematics *target-coords &rest args &key (link-list) (move-target) (stop 300) (use-base nil) (start-coords (send self :copy-worldcoords)) (thre (cond ((atom target-coords) 10) (t (make-list (length target-coords) :initial-element 10)))) (rthre (cond ((atom target-coords) (deg2rad 5)) (t (make-list (length target-coords) :initial-element (deg2rad 5))))) (base-range (list :min #f(-30.0 -30.0) :max #f(30.0 30.0))) &allow-other-keys* [メソッド]

Inverse kinemaitcs method for arm robot.

:init *&rest args &key (name dxl-7dof-arm-robot)* [メソッド]
:make-root-link *nil* [メソッド]
:make-arm-links *nil* [メソッド]
:arm_joint1 *nil* [メソッド]

:arm_joint2 *nil* [メソッド]

:arm_joint3 *nil* [メソッド]

:arm_joint4 *nil* [メソッド]

:arm_joint5 *nil* [メソッド]

:arm_joint6 *nil* [メソッド]

:arm_joint7 *nil* [メソッド]

dxl-armed-turtlebot-robot [クラス]

:super	**turtlebot-with-sensors-robot**
:slots	arm-robot arm-base-fixed-joint

:init *&rest args &key (name dxl-armed-turtlebot-robot) (arm-origin-coords (make-coords :pos (float-vector 85.725 9.525 402) :rpy (list 0 0 pi)))* [メソッド]

:method-copying *substr &optional (use-args nil)* [メソッド]

:arm *&rest args* [メソッド]

turtlebot-with-sensors *nil* [関数]

Generation function for turtlebot-with-sensors-robot.

dxl-7dof-arm *nil* [関数]

Generation function for dxl-7dof-arm-robot.

dxl-armed-turtlebot *nil* [関数]

Generation function for dxl-armed-turtlebot-robot.

make-dynamixel-ax-12a-motor-body *nil* [関数]

nil **make-dynamixel-ax-12a-frame1-body** *nil* [関数]

nil **make-dynamixel-ax-12a-frame2-body** *nil* [関数]

nil **make-dxl-7dof-arm-gripper-body** *nil* [関数]

nil **make-dxl-7dof-arm-base-body** *nil* [関数]

nil **make-dynamixel-ax-12a-motor-unit-bodyset** *&key (use-frame1 (list :bottom :left))* [関数]

nil **make-dxl-7dof-arm-root-link** *nil* [関数]

nil **make-dxl-7dof-arm-link1** *nil* [関数]

nil **make-dxl-7dof-arm-link2** *nil* [関数]

nil **make-dxl-7dof-arm-link3** *nil* [関数]

nil **make-dxl-7dof-arm-link4** *nil* [関数]

nil **make-dxl-7dof-arm-link5** *nil* [関数]

nil **make-dxl-7dof-arm-link6** *nil* [関数]

nil **make-dxl-7dof-arm-link7** *nil* [関数]

nil

第II部

robot_programming Robot Interface

turtlebot-interface [クラス]

:super	**robot-interface**
:slots	nil

:bumper-vector *nil* [メソッド]

Get bumper value vector.

:button-vector *nil* [メソッド]

Get button value vector.

:wheel-drop-vector *nil* [メソッド]

Get wheel drop sensor vector.

:cliff-vector *nil* [メソッド]

Get cliff sensor vector.

:cliff-bottom-vector *nil* [メソッド]

Get cliff bottom vector.

:imucoords *nil* [メソッド]

Get imucoords.

:power-system-vector *nil* [メソッド]

Get power system vector.

:publish-led *id value* [メソッド]

Publish topic to turn on/off LEG. id should be 1-2. Value should be :black, :green, :orange, and :red.

:publish-sound *value* [メソッド]

Publish topic to turn on sound. value should be :on, :off, :recharge, :button, :error, :cleaningstart, and :cleaningend.

:go-stop *&optional (force-stop t)* [メソッド]

Stop go-velocity mode.

:go-pos *x y &optional (d 0)* [メソッド]

Move to desired x y position and yaw orientation. x and y is [m] and d is [deg].

:go-velocity *x y d &optional (msec 1000) &key (stop t) (wait)* [メソッド]

Moving by desired x y translational velocity and yaw rotational velocity. x and y is [m/s] and d is [deg/s].

:initialize-turtlebot-ros *nil* [メソッド]

:kobuki-bumper-states-callback *msg* [メソッド]

:kobuki-button-states-callback *msg* [メソッド]

:kobuki-power-system-states-callback *msg* [メソッド]

:kobuki-wheel-drop-states-callback *msg* [メソッド]

:kobuki-cliff-states-callback *msg* [メソッド]

:kobuki-imu-states-callback *msg* [メソッド]

:laptop-charge-callback *msg* [メソッド]

:def-vector-value *&key (simulate-func #'(lambda nil (instantiate float-vector 3))) (raw-data-name) (vector-length 3) (state-name :state) (value-name)* [メソッド]

:raw-bumper-data *nil* [メソッド]

:raw-button-data *nil* [メソッド]

:raw-wheel-drop-data *nil* [メソッド]

:raw-cliff-data *nil* [メソッド]

:raw-imu-data *nil* [メソッド]

:imurot *nil* [メソッド]

:update-robot-state *&rest args* [メソッド]

:move-to *coords &key (retry 10) (frame-id /world) (wait-for-server-timeout 5)* [メソッド]

:init *&rest args* [メソッド]

:add-controller *&rest args* [メソッド]

dxl-7dof-arm-interface [クラス]

:super **robot-interface**
:slots nil

:set-compliance-slope *id slope* [メソッド]

Set compliance slope for one joint. id should be 1-7. slope is 32 by default.

:compliance-slope-vector *av* [メソッド]

Set compliance slope vector for all joints. #f(32 32 32 32 32 32 32) by default.

:set-torque-limit *id torque-limit* [メソッド]

Set torque limit for one joint. id should be 1-7. torque-limit should be within [0, 1].

:torque-enable *id torque-enable* [メソッド]

Configure joint torque mode for one joint. id sohuld be 1-7. If torque-enable is t, move to torque control mode, otherwise, move to joint positoin mode.

:servo-on *id* [メソッド]

Servo On for one joint. id should be 1-7.

:servo-off *id* [メソッド]

Servo Off for one joint. id should be 1-7.

:servo-on-all *nil* [メソッド]

Servo On for all joints.

:servo-off-all *nil* [メソッド]

Servo Off for all joints.

:start-grasp *&optional (arm :arm) &key ((:gain g) 0.5) ((:objects objs) objects)* [メソッド]

Start grasp mode.

:stop-grasp *&optional (arm :arm) &key (wait nil)* [メソッド]

Stop grasp mode.

:initialize-arm-robot-ros *nil* [メソッド]

:dynamixel-motor-states-callback *msg* [メソッド]

:fullbody-controller *nil* [メソッド]

:gripper-controller *nil* [メソッド]

:default-controller *nil* [メソッド]

:servo-on-off *id on/off* [メソッド]

:init *&rest args* [メソッド]

dxl-armed-turtlebot-robot [クラス]

:super **turtlebot-with-sensors-robot**

:slots arm-robot arm-base-fixed-joint

:init *&rest args &key (name dxl-armed-turtlebot-robot) (arm-origin-coords (make-coords :pos (float-vector 85.725 9.525 402) :rpy (list 0 0 pi)))* [メソッド]

:method-copying *substr &optional (use-args nil)* [メソッド]

:arm *&rest args* [メソッド]

dxl-armed-turtlebot-interface [クラス]

:super **robot-interface**
:slots nil

:set-compliance-slope *id slope* [メソッド]

Set compliance slope for one joint. id should be 1-7. slope is 32 by default.

:compliance-slope-vector *av* [メソッド]

Set compliance slope vector for all joints. #f(32 32 32 32 32 32 32) by default.

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Configure joint torque mode for one joint. id sohuld be 1-7. If torque-enable is t, move to torque control mode, otherwise, move to joint positoin mode.

:servo-on *id* [メソッド]

Servo On for one joint. id should be 1-7.

:servo-off *id* [メソッド]

Servo Off for one joint. id should be 1-7.

:servo-on-all *nil* [メソッド]

Servo On for all joints.

:servo-off-all *nil* [メソッド]

Servo Off for all joints.

:start-grasp *&optional (arm :arm) &key ((:gain g) 0.5) ((:objects objs) objects)* [メソッド]

Start grasp mode.

:stop-grasp *&optional (arm :arm) &key (wait nil)* [メソッド]

Stop grasp mode.

:bumper-vector *nil* [メソッド]

Get bumper value vector.

:button-vector *nil* [メソッド]

Get button value vector.

:wheel-drop-vector *nil* [メソッド]

Get wheel drop sensor vector.

:cliff-vector *nil* [メソッド]

Get cliff sensor vector.

:cliff-bottom-vector *nil* [メソッド]

Get cliff bottom vector.

:imucoords *nil* [メソッド]

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Stop go-velocity mode.

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Move to desired x y position and yaw orientation. x and y is [m] and d is [deg].

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:initialize-arm-robot-ros *nil* [メソッド]

:dynamixel-motor-states-callback *msg* [メソッド]

:fullbody-controller *nil* [メソッド]

:gripper-controller *nil* [メソッド]

:default-controller *nil* [メソッド]

:servo-on-off *id on/off* [メソッド]

:initialize-turtlebot-ros *nil* [メソッド]

:kobuki-bumper-states-callback *msg* [メソッド]

:kobuki-button-states-callback *msg* [メソッド]

:kobuki-power-system-states-callback *msg* [メソッド]

:kobuki-wheel-drop-states-callback *msg* [メソッド]

:kobuki-cliff-states-callback *msg* [メソッド]

:kobuki-imu-states-callback *msg* [メソッド]

:laptop-charge-callback *msg* [メソッド]

:def-vector-value *&key (simulate-func #'(lambda nil (instantiate float-vector 3))) (raw-data-name) (vector-length 3) (state-name :state) (value-name)* [メソッド]

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:raw-button-data *nil* [メソッド]

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:raw-cliff-data *nil* [メソッド]

:raw-imu-data *nil* [メソッド]

:imurot *nil* [メソッド]

:update-robot-state *&rest args* [メソッド]

:move-to *coords &key (retry 10) (frame-id /world) (wait-for-server-timeout 5)* [メソッド]

:init *&rest args* [メソッド]

turtlebot-init *&key (objects)* [関数]

Initialization function for ∗ri∗and ∗turtlebot∗.

dxl-7dof-arm-init *nil* [関数]

Initialization function for ∗ri∗and ∗dxl-7dof-arm∗.

dxl-armed-turtlebot *nil* [関数]

Generation function for dxl-armed-turtlebot-robot.

dxl-armed-turtlebot-init *&key (objects)* [関数]

Initialization function for ∗ri∗and ∗dxl-armed-turtlebot∗.

get-method-list-for-turtlebot-interface *nil* [関数]

nil **get-method-list-for-dxl-7dof-arm-interface** *nil* [関数]

nil **get-method-list-for-turtlebot-interface** *nil* [関数]

nil **get-method-list-for-dxl-7dof-arm-interface** *nil* [関数]

nil