

Appendix : Kobuki Parameters

Overview

Here are necessary parameters of kobuki for conversion of encoder ticks to robot pose.

Kobuki Parameters

	Name	Value	Description
Robot Parameter	wheelbase(bias)	230 mm	length between the center of the wheels
	wheel radius	35 mm	
	wheel width	21 mm	
Magnetic Encoder	tics per revolution	52 tick/rev	
	pulse per revolution	13 pulse/erv	
Gear Box	1st stage	1 : 10	motor to wheel or encoder to wheel
	2nd stage	22 : 12	
	3rd stage	30 : 11	
	4th stage	35 : 12	
	5th stage	34 : 1	
	resultant ratio	$6545/132 = 49.5833$	6545 turns of motors(or encoders) will make 132 turns of wheels
Conversions	tick to meter	$0.000085292090497737556558$ m/tick	
	tick to radian	$0.002436916871363930187454$ rad/tick	
	meter to ticks	$11724.41658029856624751591$ tick/m	
	millimeter to ticks	$11.72441658029856624751591$ tick/mm	

[kobuki_driver](#)

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autogenerated on Wed Sep 11 2013 17:03:53