

com._604robotics.utils

Class ConvertingPIDController

java.lang.Object
 edu.wpi.first.wpilibj.PIDController
 com._604robotics.utils.ConvertingPIDController

All Implemented Interfaces:

IDevice, IUtility

```
public class ConvertingPIDController  
extends PIDController
```

An extender of a PIDController that converts between units when getting and setting a setpoint.

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Field Summary

Fields inherited from class edu.wpi.first.wpilibj.PIDController

kDefaultPeriod

Constructor Summary

Constructors

Constructor and Description
ConvertingPIDController (double Kp, double Ki, double Kd, PIDSource source, PIDOutput output) Allocate a PID object with the given constants for P, I, D, using a 50ms period.
ConvertingPIDController (double Kp, double Ki, double Kd, PIDSource source, PIDOutput output, double period) Allocate a PID object with the given constants for P, I, D

Method Summary

Methods

Modifier and Type	Method and Description
double	getRealSetpoint () Gets the "real" setpoint of the PIDController.
double	getSetpoint () Returns the current setpoint of the PIDController
void	setConversionFactor (double conversionFactor) Sets the factor to use when doing conversion on setSetpoint and getSetpoint.
void	setRealSetpoint (double setpoint) Sets the "real" setpoint of the PIDController.
void	setSetpoint (double setpoint) Set the setpoint for the PIDController

Methods inherited from class edu.wpi.first.wpilibj.PIDController

disable, enable, free, get, getD, getError, getI, getP, isEnabled, onTarget, reset, setContinuous, setContinuous, setInputRange, setOutputRange, setPID, setTolerance

Methods inherited from class java.lang.Object

clone, equals, finalize, getClass, hashCode, notify, notifyAll, toString, wait, wait, wait

Constructor Detail

ConvertingPIDController

```
public ConvertingPIDController(double Kp,
                               double Ki,
                               double Kd,
                               PIDSource source,
                               PIDOutput output)
```

Allocate a PID object with the given constants for P, I, D, using a 50ms period.

Parameters:

`Kp` - the proportional coefficient

`Ki` - the integral coefficient

`Kd` - the derivative coefficient

`source` - The PIDSource object that is used to get values

`output` - The PIDOutput object that is set to the output value

ConvertingPIDController

```
public ConvertingPIDController(double Kp,
                               double Ki,
                               double Kd,
                               PIDSource source,
                               PIDOutput output,
                               double period)
```

Allocate a PID object with the given constants for P, I, D

Parameters:

`Kp` - the proportional coefficient

`Ki` - the integral coefficient

`Kd` - the derivative coefficient

`source` - The PIDSource object that is used to get values

`output` - The PIDOutput object that is set to the output value

`period` - the loop time for doing calculations. This particularly effects calculations of the integral and differential terms. The default is 50ms.

Method Detail

getRealSetpoint

```
public double getRealSetpoint()
```

Gets the "real" setpoint of the PIDController.

Returns:

The "real" setpoint of the PIDController.

getSetpoint

```
public double getSetpoint()
```

Description copied from class: `edu.wpi.first.wpilibj.PIDController`

Returns the current setpoint of the PIDController

Overrides:

`getSetpoint` in class `PIDController`

Returns:

the current setpoint

setRealSetpoint

```
public void setRealSetpoint(double setpoint)
```

Gets the "real" setpoint of the PIDController.

Sets the "real" setpoint of the PIDController.

Parameters:

`setpoint` - The "real" setpoint to set.

setSetpoint

```
public void setSetpoint(double setpoint)
```

Description copied from class: `edu.wpi.first.wpilibj.PIDController`

Set the setpoint for the PIDController

Overrides:

`setSetpoint` in class `PIDController`

Parameters:

`setpoint` - the desired setpoint

setConversionFactor

```
public void setConversionFactor(double conversionFactor)
```

Sets the factor to use when doing conversion on `setSetpoint` and `getSetpoint`.

Parameters:

`conversionFactor` - The conversion factor to use.

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Summary: Nested | Field | Constr | Method Detail: Field | Constr | Method