

com._604robotics.utils

Class UpDownPIDController

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

All Implemented Interfaces:

IDevice, IUtility

```
public class UpDownPIDController
extends PIDController
```

A PIDController with different gains for up and down.

Author:

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Nested Class Summary

Nested Classes

Modifier and Type	Class and Description
static class	UpDownPIDController.Gains A structure containing the P, I, and D gains.

Field Summary

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

kDefaultPeriod

Constructor Summary

Constructors

Constructor and Description
UpDownPIDController (UpDownPIDController.Gains upGains, UpDownPIDController.Gains downGains, PIDSource source, PIDOutput output) Initializes a new UpDownPIDController.

Method Summary

Methods

Modifier and Type	Method and Description
UpDownPIDController.Gains	getDownGains () Gets the Gains for going down.
UpDownPIDController.Gains	getUpGains () Gets the Gains for going up.
void	refreshGains () Updates the gains for the current direction.
void	setDownGains (UpDownPIDController.Gains downGains) Sets the gains for going down.
void	setSetpoint (double setpoint) Sets the setpoint to go to.
void	setUpGains (UpDownPIDController.Gains upGains) Sets the gains for going up.

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

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

`disable`, `enable`, `free`, `get`, `getD`, `getError`, `getI`, `getP`, `getSetpoint`, `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

UpDownPIDController

```
public UpDownPIDController(UpDownPIDController.Gains upGains,
                           UpDownPIDController.Gains downGains,
                           PIDSource source,
                           PIDOutput output)
```

Initializes a new UpDownPIDController.

Parameters:

- `upGains` - The gains to use when going up.
- `downGains` - The gains to use when going down.
- `source` - The PIDSource to plug in.
- `output` - The PIDOutput to plug in.

Method Detail

getUpGains

```
public UpDownPIDController.Gains getUpGains()
```

Gets the Gains for going up.

Returns:

- The gains for going up.

getDownGains

```
public UpDownPIDController.Gains getDownGains()
```

Gets the Gains for going down.

Returns:

- The gains for going down.

refreshGains

```
public void refreshGains()
```

Updates the gains for the current direction.

setUpGains

```
public void setUpGains(UpDownPIDController.Gains upGains)
```

Sets the gains for going up.

Parameters:

- `upGains` - The gains to use when going up.

setDownGains

```
public void setDownGains(UpDownPIDController.Gains downGains)
```

Sets the gains for going down.

See the game for going down.

Parameters:

downGains - The gains to use when going down.

setSetpoint

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

Sets the setpoint to go to.

Overrides:

`setSetpoint` in class `PIDController`

Parameters:

setpoint - The setpoint to go to.