

# 12.1.40 Editors - Geometry Nodes Editor - Header - Add Menu - Utilities - Rotation

## Table of content

Detailed table of content.....	1
Add menu - Utilities.....	3
Align Euler to Vector.....	3
Axis Angle to Rotation.....	4
Euler to Rotation.....	4
Invert Rotation.....	4
Rotate Euler.....	5
Rotate Vector.....	6
Rotate Vector.....	6
Rotation to Euler.....	6
Rotation to Quaternion.....	7
Quaternion.....	7

## Detailed table of content

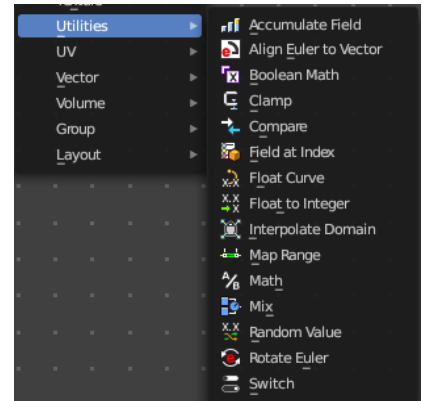
### Detailed table of content

Detailed table of content.....	1
Add menu - Utilities.....	3
Align Euler to Vector.....	3
Inputs.....	3
Rotation.....	3
Factor.....	3
Vector.....	3
Properties.....	3
Align Axis.....	3
Pivot.....	3
Output.....	4
Rotation.....	4
Axis Angle to Rotation.....	4
Inputs.....	4
Axis.....	4
Angle.....	4
Output.....	4
Rotation.....	4
Euler to Rotation.....	4
Inputs.....	4
Euler.....	4
Output.....	4
Rotation.....	4
Invert Rotation.....	4
Inputs.....	5
Rotation.....	5
Output.....	5
Rotation.....	5

Rotate Euler.....	5
Inputs.....	5
Rotation.....	5
Rotate By.....	5
Properties.....	5
Rotate Type.....	5
Axis Angle.....	5
Euler.....	5
Rotate Space.....	5
Object.....	5
Point.....	5
Outputs.....	5
Rotation.....	5
Rotate Vector.....	6
Inputs.....	6
Vector.....	6
Rotation.....	6
Output.....	6
Rotation.....	6
Rotate Vector.....	6
Inputs.....	6
Vector.....	6
Rotation.....	6
Output.....	6
Rotation.....	6
Rotation to Euler.....	6
Inputs.....	6
Rotation.....	6
Output.....	7
Euler.....	7
Rotation to Quaternion.....	7
Inputs.....	7
Rotation.....	7
Output.....	7
W, X, Y, Z.....	7
Quaternion.....	7
Inputs.....	7
W, X, Y, Z.....	7
Output.....	7
Rotation.....	7

## Add menu - Utilities

Utility nodes are mainly for mathematical operations.



### Align Euler to Vector

Aligns a euler value to a vector.

#### Inputs

##### **Rotation**

The input euler rotation vector.

##### **Factor**

The factor to align the euler value to the vector.

##### **Vector**

The vector to align to.

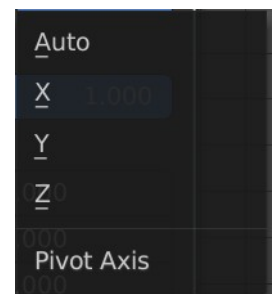
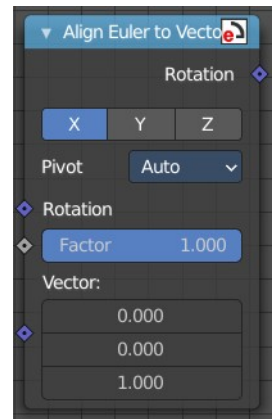
#### Properties

##### **Align Axis**

To which axis to align the vector.

##### **Pivot**

The pivot axis.



## Output

### ***Rotation***

The output rotation euler angle.

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## Axis Angle to Rotation

Converts an axis angle to a rotation.

### Inputs

#### ***Axis***

The input axis.

#### ***Angle***

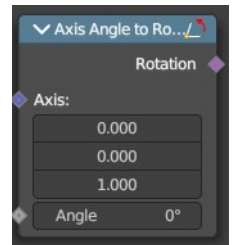
The input angle.

### Output

#### ***Rotation***

The output rotation value.

---



## Euler to Rotation

Converts an euler angle to a rotation.

### Inputs

#### ***Euler***

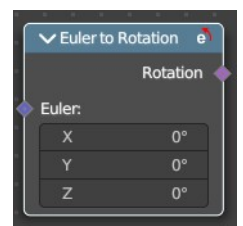
The input euler angle vector.

### Output

#### ***Rotation***

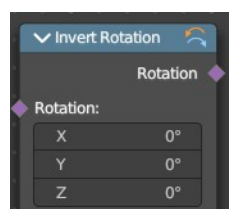
The output rotation value.

---



## Invert Rotation

Inverts a rotation



## Inputs

### ***Rotation***

The input rotation vector.

## Output

### ***Rotation***

The output rotation value.

---

## Rotate Euler

Rotates an euler rotation.

## Inputs

### ***Rotation***

Use the rotation of an existing geometry.

### ***Rotate By***

The input rotation.

## Properties

### ***Rotate Type***

#### **Axis Angle**

Rotate around an axis by an angle.

#### **Euler**

Rotate around the x, y and z axis.

### ***Rotate Space***

#### **Object**

Rotate points in the local space of the object.

#### **Point**

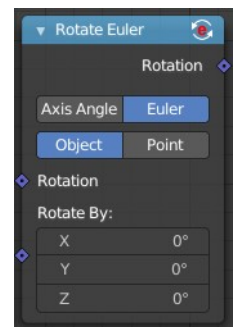
Rotate every point in its local space.

## Outputs

### ***Rotation***

The euler angle output.

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## Rotate Vector

Rotates a vector

### Inputs

#### **Vector**

The input vector.

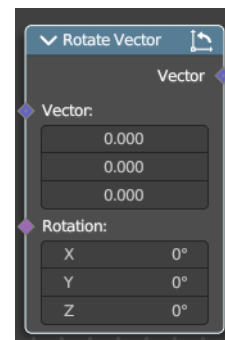
#### **Rotation**

The input rotation.

### Output

#### **Rotation**

The output rotation value.



## Rotate Vector

Rotates a vector.

### Inputs

#### **Vector**

The input vector.

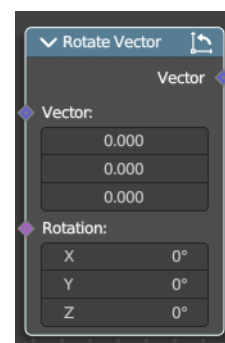
#### **Rotation**

The input rotation.

### Output

#### **Rotation**

The output rotation value.



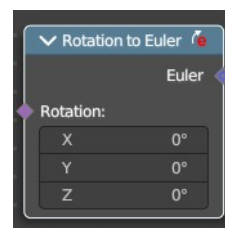
## Rotation to Euler

Converts a rotation vector to euler angle.

### Inputs

#### **Rotation**

The input rotation.



## Output

### *Euler*

The output euler angle.

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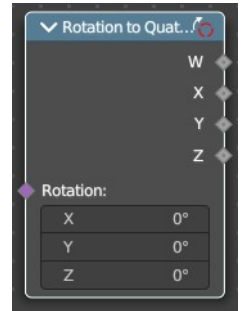
## Rotation to Quaternion

Converts a rotation vector to a quaternion.

### Inputs

#### *Rotation*

The input rotation.



### Output

#### *W, X, Y, Z*

The single output values of the quaternion.

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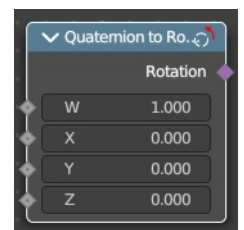
## Quaternion

Converts a rotation vector to a quaternion.

### Inputs

#### *W, X, Y, Z*

The single input values of the quaternion.



### Output

#### *Rotation*

The output rotation.