
Option 1
For Grove Modules and Arduino/Raspberry Pi's
TKM-GR1

Option 2
For Grove Beginners Kit and Sensor Shield.
TKM-GR2

Version 1.0
Oct 2021
Starting tips.

Use the back of the screwdriver to push the nuts into the slots.

After entering the nut, it sometimes is stuck at the next slot. Use your thumb to push it straight, then continue to push it through.

Some of the nuts (~1%) are missing threads. This is a manufacturing issue. We are trying to minimize the fault. In the mean time, we supply extra nuts in your kit. We apologize for the inconvenience.

For more tips, please go to the link below:
https://totemmaker/blog/totem-mechanics-for-beginners/

Use Beam/Bolt ruler to help you find the right lengths of the bolts and beams.
BEFORE YOU START BUILDING:

Bolt colours codes:
We have put some colours on bolts to make instructions more clear.

6mm bolts and 6x10mm nuts:
When starting on a building step, the 6mm bolts and 6x10 nuts are coloured RED. It makes it easier to see where the new bolts and nuts are placed.

Positions for nuts with #-symbol.
When it is helpful, the slot-number is indicated in the Totem beam. Starting from #1 and counting slots.

I-beams lengths.
When a new Totem beam is needed in a step, the length is indicated.
Parts list for Seeed Studios Grove Modules rack (option 1)

- **Tools:**
  - 1x Totem Screw Driver

- **Brackets for building the rack:**

- **Microprocessor boards brackets and Grove Module brackets:**

**Parts list for Seeed Studios Grove Modules rack (option 1):**

- **30x**
  - Bolt M3x6

- **54x**
  - Screw for Plastic 7.5mm

- **4x**
  - Bolt M2.5x8mm

- **28x**
  - Nut M3 6x10

- **12x**
  - 2-hole Simple

- **1x**
  - Electronics Breadboard

- **2x**
  - Perforated board 100x60mm

**Totem Beams:**

- 5 cm: 2 x
- 6 cm: 2 x
- 11 cm: 2 x
- 16 cm: 2 x
- 18 cm: 10 x
- 19 cm: 2 x
Parts list for Grove Sensor Shield/beginners Kit rack (option 2)

**Tools:**
- 1x Totem Screw Driver

**Brackets for building the rack:**
- 1x Electronics Breadboard
- 2x Perforated board 100x60mm

**Totem Beams:**
- 5 cm 2 x
- 6 cm 2 x
- 11 cm 2 x
- 16 cm 2 x
- 18 cm 8 x
- 19 cm 2 x

**Materials:**
- 30x Bolt M3x6
- 32x Screw for Plastic 7.5mm
- 24x Nut M3 6x10
4x
Screw for Plastic
7.5mm
18 cm 1x

2x Nut M3 6x10
2x Bolt M3x6

PART 2
18 cm

18 cm 2x

4x Nut M3 6x10
4x Bolt M3x6
PART 3

2x Nut M3 6x10
2x Bolt M3x6

18 cm 1x
PART 4

- 8x Nut M3 6x10
- 2x Bolt M3x6
- 12x 2-hole Simple

<table>
<thead>
<tr>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 cm</td>
<td>3x</td>
</tr>
<tr>
<td>19 cm</td>
<td>2x</td>
</tr>
</tbody>
</table>
2x

Screw for Plastic 7.5mm
6x
Nut M3 6x10
6x Bolt M3x6
Peel off the double sided tape under the breadboard. Then carefully place it on the boards where you like it to be.
PART 5

OPTION 1:
Rack for SEED studios Grove Modules and ARDUINO/Raspberry Pi.

8x Nut M3 6x10
8x Bolt M3x6
4x 2-hole Simple

For OPTION 2, go to: PART 7
Tip:
You can put the beams in several positions along the side, if it suits your purpose better.
PART 6

Using the brackets for microprocessor boards and Grove modules.

22x Screw for Plastic 7.5mm

4x Bolt M2.5x8mm For Raspberry Pi

4x Bolt M3x6 For Arduino Uno
Grove module brackets. Place them where you want.

In this example:

9x

Screw for Plastic 7.5mm
The modules are snapped into place.
Arduino Uno brackets:

4x Screw for Plastic 7.5mm
4

4x

Bolt M3x6
Raspberry Pi brackets:

60mm

4x
Screw for Plastic 7.5mm
OBS. 2.5mm x 8mm

4x
Bolt M2.5x8mm
PART 7

OPTION 2:
Rack for SEED studios Grove sensor shield and Beginner Kit.

- 4x Nut M3x6
- 12x Bolt M3x6
- 2x L-bracket
- 2x 2-hole Bracket

Included with the Grove Sensor shield and beginner kit from Seeed
4x Bolt M3x6
4x Tower for Sensor shield
At Totem we create a unique construction system with parts for robotics and electronics prototyping.

It’s designed as a user-friendly system for makers of all levels. Since 2015 we seek to make the engineering world fun, understandable and simple for everyone.

See us here: www.totemmaker.net