







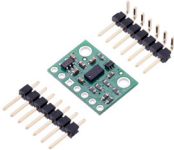



# VERMIPONICS: List of materials

## Prototype

Component name	Picture	Dimensions	Price	Supplier
TORNEADO CARMO (wooden bars) (60mm X 250 cm)		<p>We need: Diameter: 60 mm Length: 6 X 70 cm (4 heights &amp; 2 widths)</p> <p>2X125 cm (2 lengths)</p> <p>Best option: order 3 bars of 250 cm.</p>	<p>Best option: 5,69 Euros per unit</p> <p>we need 3 units, so 17,07 Euros</p>	<p>Leroy Merlin: <a href="https://www.leroymerlin.pt/Produtos/Jardim/Vedacao-e-ocultacao/Vedacao/WPR_REF_16851135">https://www.leroymerlin.pt/Produtos/Jardim/Vedacao-e-ocultacao/Vedacao/WPR_REF_16851135</a></p>
Sisal ropes (10 mm X 25 M)		<p>We will need more or less 20 meters for the pattern --&gt; see calculations rope pattern pdf.</p> <p>+ ropes needed to do the connections</p>	<p>15,59 Euros per unit</p> <p>We will need 2 units so 31,18 Euros.</p>	<p>Leroy Merlin: <a href="https://www.leroymerlin.pt/Produtos/Ferragens/Ferragens-de-fixacao/Cordas-cintas/WPR_REF_15888453">https://www.leroymerlin.pt/Produtos/Ferragens/Ferragens-de-fixacao/Cordas-cintas/WPR_REF_15888453</a></p>
Total price for ropes and wood			<p>17,07 Euros + 31,18 Euros = 48,25 Euros</p>	
Wheels without brake (Roda sem travão)		<p>Diameter: 50mm</p> <p>Carrying capacity: 35 kg</p>	<p>7,49 Euros per unit</p> <p>We will need 2 units so 14,98 Euros.</p>	<p>Leroy Merlin: <a href="https://www.leroymerlin.pt/Produtos/Ferragens/Ferragens-para-moveis/Rodas/WPR_REF_13606726">https://www.leroymerlin.pt/Produtos/Ferragens/Ferragens-para-moveis/Rodas/WPR_REF_13606726</a></p>

Wheels with brake (Roda com travão)		Diameter: 50mm  Carrying capacity: 35 kg	8,49 Euros per unit  We will need 2 units so 16,98 Euros.	<a href="https://www.leroymerlin.pt/Produtos/Ferragens/Ferragens-para-moveis/Rodas/WPR_REF_13606754">https://www.leroymerlin.pt/Produtos/Ferragens/Ferragens-para-moveis/Rodas/WPR_REF_13606754</a>
Total Price			17,07 Euros + 31,18 Euros + 14,98 Euros + 16,98Euros =  80,21 Euros	
Technical components	Picture	Description	Price (We received all the technical components for free)	Supplier
Micro-controller		ESP32 SparkFun Thing	24,90 Euros	Botnroll: <a href="https://www.botnroll.com/pt/esp/2322-esp-32-sparkfun-thing.html">https://www.botnroll.com/pt/esp/2322-esp-32-sparkfun-thing.html</a>
Water level sensor		10W Liquid Level Sensor	6.20 Euros	ElectroFun: <a href="https://www.electrofun.pt/sensores-arduino/sensor-nivel-agua-10w">https://www.electrofun.pt/sensores-arduino/sensor-nivel-agua-10w</a>
Temperature sensor		Waterproof temperature sensor DS18B20	3.70 Euros	Mauser: <a href="https://mauser.pt/catalog/product_info.php?products_id=-096-8756&amp;utm_source=google&amp;utm_medium=cpc&amp;utm_campaign=search-shopping-">https://mauser.pt/catalog/product_info.php?products_id=-096-8756&amp;utm_source=google&amp;utm_medium=cpc&amp;utm_campaign=search-shopping-</a>

Humidity sensor		Seed Capacitive humidity sensor	8.49 Euros	Electrofun: <a href="https://www.electrofun.pt/sensores-termicos-e-humidade/sensor-de-humidade-capacitativo-seeed">https://www.electrofun.pt/sensores-termicos-e-humidade/sensor-de-humidade-capacitativo-seeed</a>
Time-of-flight distance sensor		Sensor VL53L0X	14.90 Euros (For 2 units)	Botnroll: <a href="https://www.botnroll.com/pt/infravermelhos/2920-vl-53l0x-time-of-flight-distance-sensor-pololu-200cm-max.html">https://www.botnroll.com/pt/infravermelhos/2920-vl-53l0x-time-of-flight-distance-sensor-pololu-200cm-max.html</a>
Battery		Li-Ion Battery 18650	3.90 Euros	Botnroll: <a href="https://www.botnroll.com/pt/baterias/3162-pilha-li-ion-18650-3-7v-2000mah-18x65mm-6a-max.html">https://www.botnroll.com/pt/baterias/3162-pilha-li-ion-18650-3-7v-2000mah-18x65mm-6a-max.html</a>