

# Know the Difference: MPKs, Water & IP Ratings

Looking to understand how your Microprocessor Knee is protected from the elements? Here are the facts:



**X3**  
3B5\*



**Genium**  
3B1\*



**C-Leg**  
3C88/3C98-3\*



**Kenevo**  
3C60\*

IP 68	IP 67	IP 67	IP 22
<ul style="list-style-type: none"> <li>The knee joint and the AXON tube adapter are waterproof and corrosion resistant in salt, fresh and chlorinated water</li> <li>The X3 has the highest IP Rating of any MPK on the market</li> </ul>	<ul style="list-style-type: none"> <li>Water-resistant but not corrosion resistant</li> <li>Protected from dust, sand, dirt and temporary submersion in fresh water (up to 1m for 30min)</li> <li>Accidental water damage does not void the warranty</li> </ul>	<ul style="list-style-type: none"> <li>Water-resistant but not corrosion resistant</li> <li>Protected from dust, sand, dirt and temporary submersion in fresh water (up to 1m for 30min)</li> <li>Accidental water damage does not void the warranty</li> </ul>	<ul style="list-style-type: none"> <li>Designed specifically for lower mobility users</li> <li>Not waterproof or corrosion-resistant, but protected from dripping water</li> </ul>

### What is an IP rating?

- An IP “Ingress Protection” Code or Rating classifies the degree to which a device is protected against various elements such as dust, solids, water and corrosion.

IP ratings are important for prosthetic devices because they’re exposed to things like dirt, sand and water in everyday activities. Where and how your prosthesis can safely be used, without damage, is crucial in deciding what’s the best device for individual needs and goals.

### What do the numbers in an IP rating mean?

- The numbers that follow IP each have a specific meaning. The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects. The second digit rates the enclosure’s protection against liquids and uses a scale of 0 (no protection) to 9 (high pressure water from different angles). The following page has the IP rating guideline for your quick reference.

## IP68



### Protection from solids:








From 0 (no protection) to 6 (dust tight)













### Protection from liquids:

From 0 (no protection) to 8 (continuous immersion)

**First Digit:**  
Indicates level of protection that the enclosure provides against ingress by solid foreign objects

0		No protection
1		Protected against solid foreign objects of 50mm diameter and greater
2		Protected against solid foreign objects of 12.5mm diameter and greater
3		Protected against solid foreign objects of 2.5mm diameter and greater
4		Protected against solid foreign objects of 1mm diameter and greater
5		Dust-protected
6		Dust-tight

**Second Digit:**  
Indicates level of protection that the enclosure provides against harmful ingress of water

0		<ul style="list-style-type: none"> <li>No protection</li> </ul>
1		<ul style="list-style-type: none"> <li>Protected against vertically falling water drops.</li> <li>Vertically falling drops shall have no harmful effects</li> </ul>
2		<ul style="list-style-type: none"> <li>Protected against vertically falling water drops when enclosure is tilted up to 15°</li> <li>Vertically falling water drops shall have no harmful effects when the enclosure is tilted at any angle up to 15° on either side of the vertical</li> </ul>
3		<ul style="list-style-type: none"> <li>Protected against spraying water</li> <li>Water sprayed at an angle up to 60° on either side of the vertical shall have no harmful effects</li> </ul>
4		<ul style="list-style-type: none"> <li>Protected against splashing water</li> <li>Water splashed against the enclosure from any direction shall have no harmful effects</li> </ul>
5		<ul style="list-style-type: none"> <li>Protected against water jets</li> <li>Water projected in jets against the enclosure from any directions shall have no harmful effects</li> </ul>
6		<ul style="list-style-type: none"> <li>Protected against powerful water jets</li> <li>Water projected in powerful jets against the enclosure from any direction shall have no harmful effects</li> </ul>
7		<ul style="list-style-type: none"> <li>Protected against the effects of temporary immersion in water</li> <li>Ingress of water in quantities causing harmful effects shall not to be possible when the enclosure is temporarily immersed in water under standardized conditions of pressure and time</li> </ul>
8		<ul style="list-style-type: none"> <li>Protected against the effects of continuous immersion in water</li> <li>Ingress of water in quantities causing harmful effects shall not be possible when the enclosure is continuously immersed in water under conditions which shall be agreed between the manufacturer and user, but which are more severe than for numeral 7</li> </ul>
9		<ul style="list-style-type: none"> <li>Protected against high pressure and temperature water jets</li> <li>Water projected at high pressure and high temperature against the enclosure from any direction shall not have harmful effects</li> </ul>

# IP68

**\*Disclaimer: for reference only. Please refer to the Instructions for Use for product specific details, care and handling.**

Source: <https://www.iec.ch/ip-ratings>, IEC (International Electrotechnical Commission)