

# Sealed Adapters & Connectors



## Features & Benefits

- Sealed to IP67 or Hermetic Rating
- Maintains high frequency signal integrity
- Meets MIL-STD-202 for environmental constraints

## Applications

- Maritime Communication
- Space
- Military Field Deployable Communications
- Medical

## What is the difference between IP67 and Hermetic?

The primary difference between IP67 and hermetic is the level of sealing they provide and in what environment.

IP67 can be considered “weatherproofing” or “environmental sealing” and protects against dust ingress and water ingress at depths up to 1m for 30 minutes. This method of sealing uses o-rings inside and outside the connector to create the seal.

Hermetic sealing can be considered an airtight seal, and ensures a constant pressure or vacuum is maintained on one side of the connector. This type of sealing requires a glass to metal fusion and has a max leak rate of  $10^{-8}$  cc/sec of helium gas.



IP67 prevents water and dust ingress to critical electronics.



Hermetic seals maintain pressurization in space.

## IP (Ingress Protection) Rating Chart

### SOLIDS

<b>0</b>	Not rated for protection or not rated for protection
<b>1</b>	Protection against solid objects larger than 50mm, but not against deliberate contact (contact with open hand palm)
<b>2</b>	Protection against solid objects larger than 12mm (contact from finger)
<b>3</b>	Protection against solid objects larger than 2.5mm (wire or tools)
<b>4</b>	Protection against solid objects larger than 1mm (slender screws or nails, larger insects or potentially invasive small objects)
<b>5</b>	Partial protection against dust and similar particles
<b>6</b>	Full protection against dust and other similar particles

### IP RATING EXAMPLE:

**IP 6 7**

### WATER

<b>0</b>	Not rated for protection or not rated for protection
<b>1</b>	Protection against vertical falling water droplets (condensation)
<b>2</b>	Protection against vertically falling water droplets when tilted at 15 degrees
<b>3</b>	Protection against moisture spray at up to 60 degree angles
<b>4</b>	Protection against splashing water from any direction for a minimum of 10 minutes
<b>5</b>	Protection against low-pressure jets of water
<b>6</b>	Protection against powerful jets of water at a rate of 100 litres per minutes (100kPa of pressure at a distance of 3m for 15 minutes)
<b>7</b>	Protection against full immersion up to 1m in depth for 30 minutes. Always check manufacture specifics for products with this rating
<b>8</b>	Protection against full immersion 1m or more in depth for more than 30 minutes. Always check manufacture specifics for products with this rating.

### When to use a Hermetic Seal:

- If you need to maintain a vacuum on one side of the connector
- If you need to withstand high gas pressure (>5 psi)
- When outgassing from or to a sealed environment is a concern
- Medical equipment to prevent contamination
- When a connector is exposed to harsh chemical or corrosive environments

Many configurations of adapters, connectors, and cable assemblies are available for any application requirement.