A PERFECT ALLIANCE.

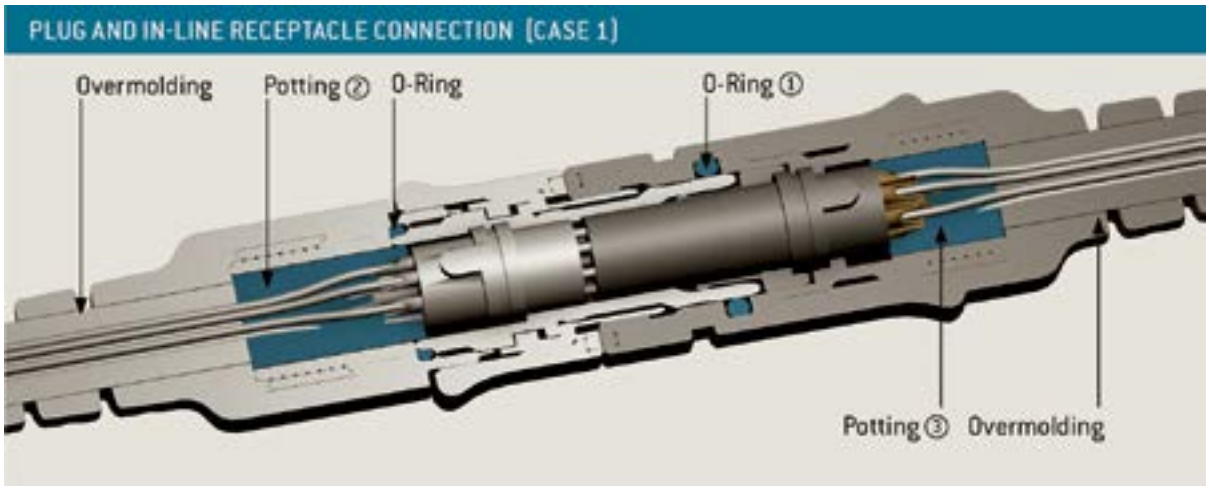
Cable Connector Seals May Determine the Life of Systems

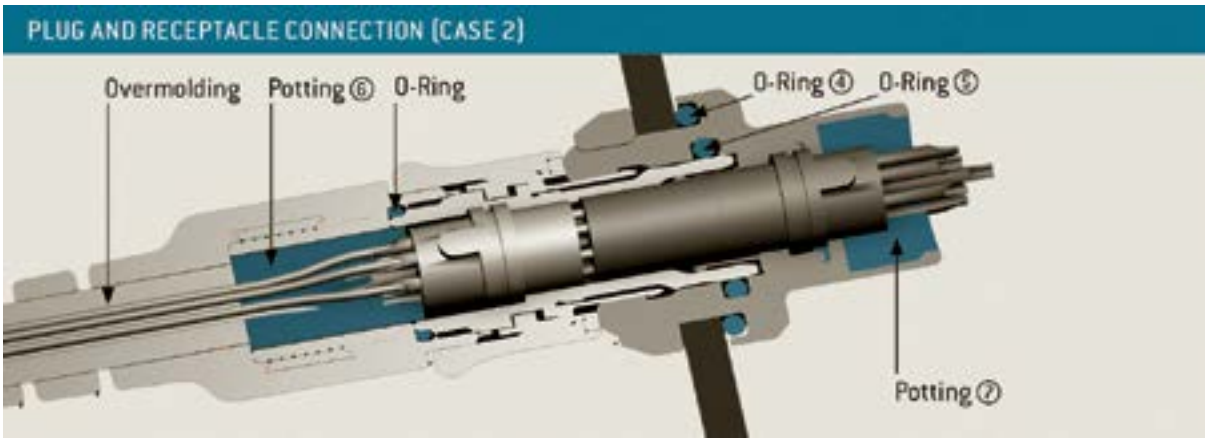
ODU connectors are ideally suited for mission critical military applications and their extreme environmental conditions. Seals are potentially the weakest part of the system. ODU ensures overmolding according to international standards and beyond.

Where reliability is paramount, cable connectors are often the most significant points of failure, particularly over prolonged periods of time. This is unacceptable under the extreme conditions in which military operations may take place, as immersion in water, exposure to dirt and dust, high humidity, extreme temperatures, shock and vibration, to name just a few. ODU offers a wide variety of connector families, many of which are capable to operate in harsh environments. Among them are the ODU AMC® and the ODU MINI-SNAP® series. Special overmolding technologies ensure watertight as well as dirt-proof seals where an ODU connector is mated with its receptacle.

Products that excel standards

A combination of O-rings, potting and overmolding is used to meet the IP68 specification. ODU has raised the bar by defining waterproof products to be capable of immersion at a depth of 2 meters for at least 24 hours, in accordance with the IEC 60529:2013 standard. Some members of the ODU AMC® family even meet the more rigorous IP69 specification, in which they are subjected to high-pressure jets from a steam cleaner. Although push-pull connectors such as the ODU AMC® and ODU MINI-SNAP® are not specifically covered in MIL DTL 38999, both these ODU connector families actually outperform the MIL spec in various areas. For customers who require true hermetically sealed (gastight) connectors, ODU offers customized solutions, in which sealing techniques utilizing glass to metal seals are incorporated in the product. ODU connectors have been adopted by numerous equipment manufacturers due, among other factors, to the outstanding reliability of their seals in harsh environment applications.





For tactical, reliable communication
Poor quality reception, listening fatigue and constantly having to wear a headset in or around one's ears – these are common issues associated with military communication systems. To address this challenge, ODU, working with a special US Navy unit, helped its customer with the development of an advanced headset system. Combining a watertight, noise-absorbing microphone with bone conductors and electronic headphones, the system enables users, for the very first time, to be able to easily remove the headphones from their ears while the radio reception continues uninterrupted. This is possible by bone conductors which enable the radio communication to be transmitted directly into the inner ear via the bones of the skull. An ODU AMC® connector ensures reliable transmission of the signals. The circular connector connects the headset with the push-to-talk housing. This solution offers a non reflective surface, protection class IP 68 water tightness, durability of up to 5,000 mating cycles and a break-away function that protects the connected equipment in the event that the cable or any component becomes snagged on some immovable object. It allows for easy disconnection of the connector with one pull on the cable. The ease of handling and reliability enabled the headset to fully meet the requirements of military and security technology.

Glass-seal Connector for Weighing Systems in Raw Material Mining
ODU manufactures custom hermetic connectors for load cells used in stationary truck scales. The weighing systems in the raw material mining sector are equipped with a number of individual load cells. Trucks are weighed before and after being loaded, in order to determine the net weight of raw material they are transporting. A glass seal between the connector shell and shielded cable ensures that no dust or dirt can infiltrate the unit in its harsh outdoor environment, while also helping to make the entire weigh scale tamper proof.

Future Soldier Radio
FSR (Future Soldier Radio) is a compact "dual band radio" for use in military and security technology applications. It is reliable, lightweight, uses very little power, has integrated GPS and can handle extreme environmental conditions. FSR meets the most demanding military standards for electrical, mechanical and environmental conditions. A 16 pole ODU AMC® Easy-Clean plug connector is used to connect the radio's headset to the function selector unit. The plug is overmoulded to meet the IP 68 specification and to offer a flexible bend relief to protect the cable in use.

Selecting electronic equipment that may be exposed to harsh environments, it is important to consider every point of possible leakage between the exterior and interior of the equipment. ODU offers customized overmolding solutions according to excelling international standards. ■

For more information: www.odu-connectors.com

The ODU Company Group: global representation with perfect connections
ODU is one of the world's leading suppliers of connector systems, employing some 1,650 people around the world, including 110 trainees for eight different occupational fields. Aside from its company headquarters in Mühldorf am Inn (Germany), the ODU Group also has production sites in Sibiu (Romania), Camarillo (USA), Tijuana (Mexico) and Shanghai (China). ODU covers all relevant areas of expertise and key technologies around design and development, machine tool and special machine construction, injection, stamping, turning, surface technology, assembly and cable assembly. The ODU group sells its products globally through an international distribution network including eight subsidiaries in Denmark, England, France, Italy, Sweden, the US, China and Japan, along with numerous worldwide sales partners. ODU connectors ensure the reliable transmission of power, signals, data and media in a variety of demanding applications: medical technology, military and security, eMobility, energy, industrial electronics, and measurement and testing.