Sn0wlink R&D

Norwich, Norfolk, UK

Secure Induction Field Connectors

(IFC)

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08/02/2015

Problem / Concept

CONCEPT:

Using connectors for electronic data communication in the field can lead to a variety of communication problems. Using an IFC (Induction Field Connector) can overcome a lot of the issues encountered. Most of the communication problems are caused by bad connection from grease or dirt, or loose connectors. To counteract this, companies have come up with highly ruggedized connectors that will self-clean, incorporate armoured cable, and have built in cable restraints to reduce wear. These cables can still work loose and sometimes cut out of critical data transfers.

SOLUTION:

To use IFC technology to reduce data loss in critical environments while being resistant wear from friction connector technology.

SPECIFICATION:

- To be a lightweight and also a passive connector.
- Be resistant to friction wear
- Water and debris resistant
- Cost effective manufacture process
- No moving parts
- Easily serviceable / clean

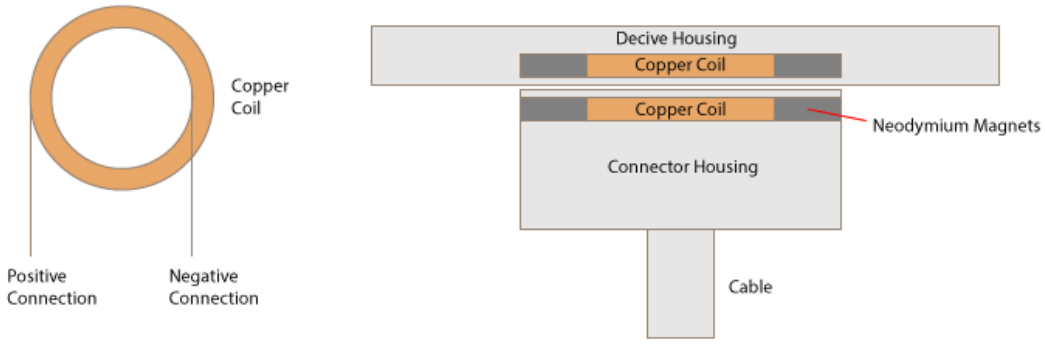
Device Description

TECHNOLOGY'S USED:

- Electronic Induction Circuits
- Neodymium Magnets
- Plastic Casting and Ultrasonic Welding
- Rapid Proto-Typing

Design / Construction

Induction Connector:



Induction Charging Technology is certainly not new, but using it to transfer data might just revolutionise how we communicate and even power devices in the field.

By using the technology like this, we can build a fully water-tight connector, which can even work through debris and grease without disruption communications. Although the transfer of power may be possible, the amount of current able to pass through the coils will be minimal. The possible application of charging phones, UAV's and Electronic Rifle Scopes are certainly a possible advantage.

Because these connectors can be made rugged and reliable, its weight to reliability factor while providing a secure connection (as good as copper) can be a positive to any industry.

CONSTRUCTION:

The connector can be manufacture a number of way's as it has no moving parts. The most predominant will be through the use of injection moulding (Recommended Polycarbonate), with the component cast inside the device.

It should be made to the unit it totally sealed from the environments making it resistance to the elements.

APPLICATION:

- Secure data transfer for communications in harsh environments
- Providing power/data for underwater sealed devices
- Charging rugged devices in the field including mobile phones, Small UAV's and HUD's