DC networks in military platforms

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Abstract

In military land platforms, a low voltage DC network is used to supply electricity to the tactical equipments. High voltage DC links or sub-networks can be used locally for some specific equipments, or in hybrid propulsion systems.

In military air platforms, DC networks are not commonly use today but a lot of R&T efforts, mostly driven by the civilian aeronautic market, are being undertaken to use DC distribution either to replace the main AC distribution network or in local sub-networks.

In military naval platforms, medium voltage DC networks have been used for a long time in submarines, and longterm R&D efforts are underway to replace the high voltage AC network of surface warships by a DC network.

A general overview of theses DC networks and DC links will be provided.

The advantages and challenges of this type of distribution with respect to AC networks will be outlined.

Examples in existing military and civilians platforms will be provided, as well as examples of R&D projects supported by DGA.