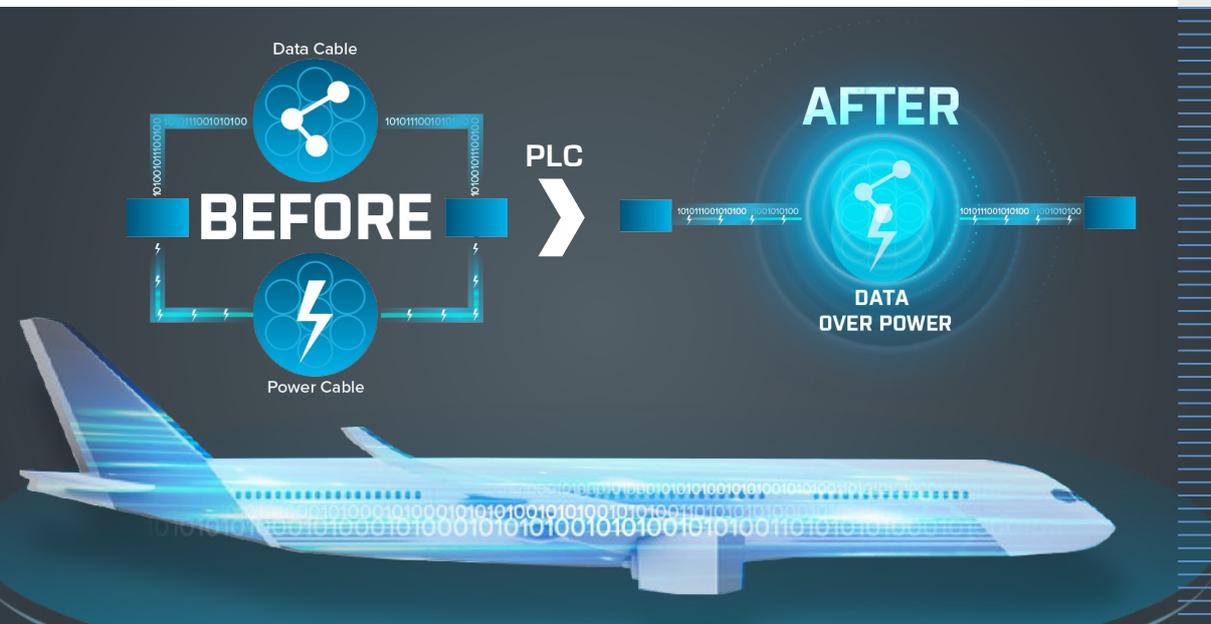


Power Line Communications (PLC) for Aircraft

Cabin Systems

DIEHL
Aviation

Climbing higher.
Together.



Characteristics

Today's traditional aircraft and cabin systems consist of separate power and data networks. The trend towards "More Electric Aircraft" and increased comfort functions inside the cabin requires an increasing number of electrically-controlled systems within the aircraft. Diehl Aerospace, in cooperation with Lucerne University of Applied Sciences and Arts, has, with the Power Line Communications (PLC), provided a solution which will decrease complexity in aircraft wiring. PLC for commercial networks provides easy and fast network access over power cables in buildings. Aviation PLC technology is optimized to answer to the needs of the aviation world: Strict deterministic and robust communication, environmental conditions regarding RTCS-DO 160, and filter and data transfer functions.

Benefits

Operator

- More cabin comfort functions
- Reduced operating costs (e.g. fuel, installation, and maintenance)
- Higher flexibility in cabin layout and changes
- Greener operation due to reduced CO₂ and NO_x emissions

Passenger

- Higher comfort during flight
- Improved ecological footprint
- Additional functions inside the cabin



**CRYSTAL
CABIN**
AWARD®

WINNER 2017

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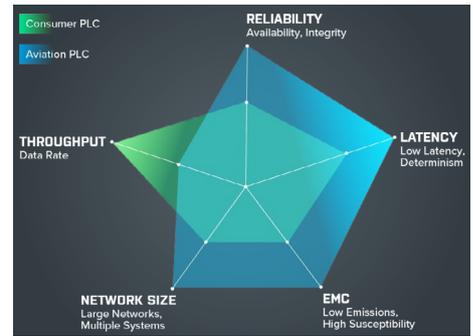
Benefits

OEM

- Fewer data cables
- Less weight and volume
- Less complex architectures
- Reduced installation effort
- Less fuel consumption resulting in less CO₂ and NO_x emission

Features

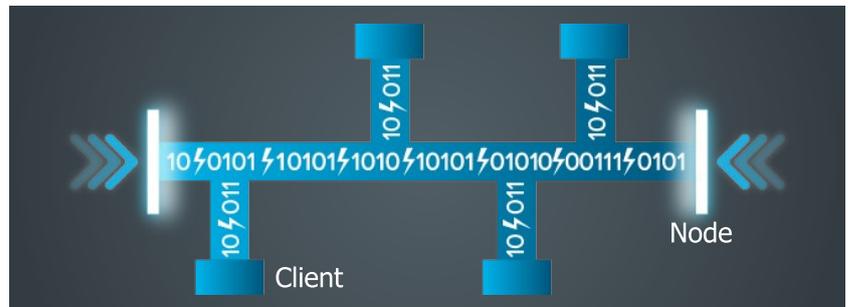
- Transfer function modulates data on the power line
- Filter function to eliminate signals induced by the PLC transfer function to protect propagation to other networks
- Reduced cabin data networks (< 30%)
- Support of any digital data communication (e.g. Ethernet, CAN, ARINC429)
- Support of deterministic, segregated, and configurable communication (100 Mbit/s and more are possible)
- User-friendly PLC handling supported by a configuration tool
- Low risk installation due to compliance with aircraft environmental requirements (RTCA DO-160)



Technical Data

PLC technology is based on the PLC-Node and the PLC-Client:

- PLC-Client is a small component including the transfer function as part of cabin equipment
- PLC-Node is a unit including filter and transfer function



Power Line Communications is based on a cooperation of Diehl Aerospace, the Lucerne University of Applied Sciences and Arts and plc-tec.

Want to know more about our products and their availability? Please contact us!

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