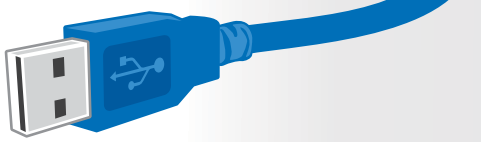
AERODESIGN SERVICES

EXCELLENCE IN AIRCRAFT INTERIORS

ISPS



In-Seat Power Systems

Product Review

www.aerodesignservices.com

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Our Company

AeroDesign Services (ADS) was established in 2002 to provide aircraft interior changes, seat modifications, fabrication of aircraft interior components such as galleys, windscreens, class dividers and carpet kits. We have DER/DAR's on staff to support major alterations and repairs. ADS employs airline engineering professionals who give us the knowledge necessary to anticipate upcoming trends in the industry. In addition to redesigning galleys to become more efficient for catering, we are also experts at maximizing space available to better support emergency equipment which alleviates stowage in the passenger compartment overhead bin assemblies. We make the galleys convertible.

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The Future of Passenger Onboard Entertainment Powered By the Perfect ISPS System

As commercial air travel continues to expand routes and frequency of travel, there is an ever increasing need to support Passengers Electronic Devices (PED's) while onboard the aircraft. The ability to provide an affordable system that allows passengers to charge these many devices during flight, is crucial to an excellent customer experience. The success of all of our products is accredited to listening to our customers needs, and instituting the most efficient methods to implement cost effective solutions. ADS proudly employs aviation engineering professionals to successfully achieve these goals. The ISPS system was designed around three key issues.

1) Ease of Product Integration

The ISPS is able to be installed to any seat type. Looking at 9G vs. 16G seats, we reviewed the best method to deliver an ISPS package without forgoing dynamic tests. Our ISPS is integrated easily, as we install our ISPS boxes directly to the baggage bar assembly. This is a secondary structure and the units are less than 1 lb each, making the certification analysis easier.

2) Ease of Aircraft Retrofit

Retrofitting an existing aircraft is done without pulling existing seats out of the aircraft for ISPS integration. Knowing the large costs of having a spare set of seats around while the implementation of the modification is underway, our ISPS units can be installed while seats are on-wing or in position. Attaching and running the cables is made easy because they go from seat to seat. The wire cables are fabricated to be used from seat pitch range of 28 inches to 35 inch. Small service loops allows more flexibility for the airline if they wish to change interiors in the future, keeping cost of future retrofits to a minimum.

3) Ease of Certification

ADS can certify this system under EASA approval as a minor. This allows our customer the ability to save money and time as this system does not require STC approval. If the airline wishes to have an EASA STC, this takes more time and more cost to our client. Knowing this, we offer the best method or solution to ALL of our customers. Having EASA approval as a minor means our airline clients can enjoy the ISPS system in a rather short period of time.

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How It Works

Control Switches

The system utilizes two control panels (on / off), which are located in the flight deck (master control) while the second panel is located at the L1 door assembly.

The GFI Units

The aircraft size determines how many GFI boxes will be required for the ISPS system. For example, a 767-300 aircraft will require 3 GFI boxes to be installed. The GFI boxes are located above the overhead bin assembly and equally distributed throughout the cabin. Each GFI will run the LH / CTR / RH column seats. If a fault occurs, this will not disable the complete aircraft system and/or the other 2 GFI units.

ISPS Boxes

ADS offers two models of ISPS boxes which are tailored to the airline's requirements and needs. The outlets are back lit using LED lighting to ensure adequate visibility, so passengers can locate and use the ISPS box when cabin lighting may not be sufficient. If the airline wishes to change the type of ISPS boxes in the future, it does not impact the system wiring or other components. Again, we strive to offer flexibility and customization for our customers. Each ISPS box has its own circuit protection and can be reset using a special tool. Removal and installation is made easy by removing the baggage bar cover plate, and removing 4 screws. The cannon plugs (total 2) are located at the top of each ISPS unit. Removal, if required, will only take about 3-5 minutes. Because the ISPS boxes are injected molded, the customer can specify the color to match the already determined colors of the airline.

1) The first ISPS box has one multiple plug arrangement which provides either 110V or 220V power along with one smart USB outlet. The ISPS boxes are made from high impact injection molded plastic which passes 14 CFR part 25.853(a) part 1 flammablity. Traditionally the dual power unit is used in business or premium economy class seating.

2) The second ISPS box uses two backlit smart power USBs. Theses units are installed in standard tourist class seating and/or other seating specified by the airline customer.