



## Ice Protection Systems

### Ultra Electronics Controls

- Ultra Electronics Controls is the original manufacturer of the Wing Ice Protection Control Unit (WIPCU) for the Boeing B787.
- Ultra Electronics Controls provides high integrity electronic control systems for many aircraft including the Boeing B787 Dreamliner and the new Gulfstream G650 business jet.
- Ultra Electronics Controls provides worldwide 24/7 spares, repairs and

With over 15 years' experience, Ultra Electronics Controls is the market leader in developing innovative Ice Protection System solutions for the Aerospace industry.

We have teamed successfully with GKN Aerospace, to provide a complete ice protection system capability.

Our systems are designed to operate in either an anti-icing, de-icing or hybrid mode. We cater to a range of ice protection requirements; from simple, time/voltage, on-off control through to very complex multi-zone, closed loop feedback control.

### Existing applications

To date, our Ice Protection Systems have been adopted on the following Platforms:

- Boeing 787 Dreamliner Wing Leading Edge
- Pratt & Whitney F135 Engine Inlet
- Lockheed Martin F35 Lightning II Lift Fan Inlet

The function of the Wing Ice Protection System (WIPS) is to provide electro-thermal ice protection to an area of the aircraft wing leading edge slats.

WIPS operates simultaneously; both left (port) and right (starboard) wing ice protection to achieve symmetrical wing leading edge ice protection, and so maintains aerodynamic stability.

# Ultra's Ice Protection Products

## Ice-Protection Control Unit

The aircraft 235VAC 3 phase power supply is switched by the Wing Icing Protection Control Unit (WIPCU). The WIPCU controls the power to the heated slats. There are three (3) types of electronic circuit board in the IPCU:

- PS -Power Supply (1 per IPCU)
- SC- Sequence Controller (1 per IPCU)
- ZC - Zone Controller ( number per IPCU depends on the area of coverage. The 787 has 24 ZC cards)

The **Power Supply** conditions and distributes the dual 28VDC power to the Zone Controller and Sequence Controller.

The **Zone Controller** controls the power switching to the different Heater Mat zones.

The **Sequence Controller** maintains the symmetrical ice protection for the aircraft controlling the switching of the Zone Controllers

## Heater Mats

GKN Aerospace provides the advanced heater mats for Ultra's Ice Protection systems. These mats are applicable for both composite and metal structures.

## Translating Wire Bundle

If the heated area is on a moving surface such as a slat, then a translating wire bundle is required. Ultra manufactures these translating wire bundles for both the 787 WIPS, for the Airbus A-350 and for the Boeing 747.



## Full Support Service

Ultra offers customers a full 24 hour, 365 days a year worldwide spares and repairs service.

## Delivery Time

Products are available immediately from stock



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