



0871ND series ice detectors

Multiple capabilities

Proven technology for both air and ground applications

With over 50 years of ice detection experience and innovation, Collins Aerospace continues to be at the forefront of icing technology. Our flexible designs detect ice in a wide range of icing environments and have demonstrated their success around the world on both aircraft and ground-based applications.

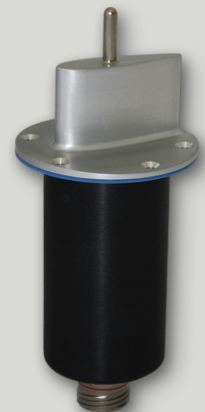
Collins ice detectors do more than just detect the presence of ice – they can be used to calculate ice accretion rate and liquid water content (LWC).

They are designed to meet the demanding aerospace requirements of RTCA DO-160 for environmental conditions. These factors, as well as droplet impingement and unit orientation, should be considered with each installation.

Customization is available, including connector type, strut/flange and outputs. With heated struts and probes, our ice detectors offer robust capabilities and can perform multiple calculations.

Key features & benefits

- Customizable connector strut/flange and output
- Compatible with aluminum or composite skin
- Flexible mounting and installation
- Heated struts and probes
- Built-in test capability



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General specifications

Connector D38999/24FD97PN

Power consumption

Sensing mode 5 W max. at 28 VDC

De-icing mode 330 W max. at 26 VDC

Discrete outputs: customer-selectable output configuration

Ice Open/ground

Status Open/ground

Weight 1.5 lbs. max. (0.68 kg)

Serial ports RS-485 (RS-232 available with line level converter)

Ice detection sensitivity

- Sensitive to less than 0.001 inches of ice
- Customer-selectable ice signal threshold (typically 0.020 inches)

Software meets DO-178B, Level A requirements. Hardware development follows DO-254, Level A standards. The unit complies with SAE AS5498.

Theory of operation


Collins ice detectors use a magnetostrictive technology to drive the sensing probe to resonate at its natural frequency. As ice accretes on the probe, a shift in resonance frequency occurs. When the resonance frequency reaches the set point, an ice signal is activated and the strut and probe de-ice. The heaters remain on for a predetermined time once ice has debonded from the probe to ensure the ice is removed.

Icing measurements

The rate of ice accretion on ice detectors and monitored surfaces – for example, wing, tail, engine nacelle, etc. – depends on a complex heat transfer balance dependent on many atmospheric and aircraft parameters. By understanding these relationships, ice detector output can be used to activate ice protection and stall protection. It can also be used to calculate ice accretion rate and LWC.

Learn more at collinsaerospace.com

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