Ice Detectors
0871MD Series

Adding a UTC Aerospace Systems ice detector to your aircraft adds another layer of safety for those situations where icing cues are difficult to sense or during high workload conditions when the pilot is focused on other tasks.

The 0871 MD Series of ice detectors is designed to be the most economical choice for general aviation aircraft. With over 50 years of ice detection experience and innovation, UTC Aerospace Systems continues to be at the forefront of icing technology. Flexible, robust 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.

Benefits & Features
• Lower power
• Lighter weight
• Smaller package size
• Same proven core technology
• Same robust design / construction of other 0871 Series ice detectors
• Unheated strut lowers power consumption
• Reduced size offers greater flexibility for mounting and installation
• Built-in test capability verifies internal electronics are functioning properly
• Compatible with aluminum or composite skin

Enhance safety with affordable ice detection

2 in. (5 cm)
4 in. (10.2 cm)
2 in. (5 cm)
1.5 in. (3.8 cm)
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Theory of Operation
UTC Aerospace Systems 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 probe de-ices. The heaters remain on for a predetermined time once ice has debonded from the probe to ensure the ice is removed. De-icing takes approximately six seconds. Once the heaters deactivate, the probe quickly cools down to begin sensing again. Based on operational experience, once the ice signal is activated, it is latched in the "on" configuration for approximately 60 seconds in order to avoid nuisance on/off indications in intermittent icing conditions.

Operational Considerations
UTC Aerospace Systems ice detectors are designed to meet the demanding aerospace requirements of RTCA DO-160 for environmental conditions. Software follows the DO-178 process. The unit complies with ASTM requirements. Installation location is important for proper droplet impingement.

Ice Detection Sensitivity
• Sensitive to less than 0.001 inches (0.00254 cm) of ice
• Indicates detection at 0.020 inches (0.0508 cm)

Installation
The 0871MD ice detector can be easily installed using the installation kit (included). The kit includes wiring, strain relief, shrink tubing, interconnects, ice/fail/test indicator light for the instrument panel, placard, doubler plate/gasket (if needed), fasteners and instructions.

General Specifications

<table>
<thead>
<tr>
<th>Power Consumption</th>
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<tbody>
<tr>
<td>Sensing Mode</td>
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<tr>
<td>De-Icing Mode</td>
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<table>
<thead>
<tr>
<th>Discrete Inputs/Outputs:</th>
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<tbody>
<tr>
<td>Ice</td>
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<tr>
<td>Fail</td>
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<tr>
<td>Test</td>
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<table>
<thead>
<tr>
<th>Weight</th>
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<tbody>
<tr>
<td>0.7 lbs. max. / 0.32 kg</td>
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<table>
<thead>
<tr>
<th>Serial Output</th>
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<tr>
<td>RS-485 (RS-232 available with line level converter)</td>
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