



# Total Temperature Sensors

## Models 101, 102 and EPTAT™

Leading precision temperature sensors, tested in our state-of-the-art icing wind tunnel, offer reliable total temperature measurement.

### Specifications

Total Temperature	-94°F to +662°F (-70°C to +350°C)
Speed	To Mach 3+
Altitude	0 to 100,000 ft. (0 to 30.5 km)
Voltage	28 VDC, 115 VAC or 230 VAC

Increasing air traffic, higher operating costs and greater performance demands have made precision air data measurements necessary for safety, economy and maximum performance. Thus, accurate and reliable total temperature measurement is essential to the safe, efficient operation of aircraft. UTC Aerospace Systems' family of total temperature sensors are among the leading precision temperature measurement sensors available.

### State-of-the-art Testing Capabilities

UTC Aerospace Systems has one of the most capable icing wind tunnels in the world. Aerodynamic and icing testing is essential to analyze the effectiveness of air data products. The new icing wind tunnel offers significantly increased capabilities, such as colder temperatures and higher altitudes, and is capable of producing both solid ice particles and supercooled liquid water droplets in high concentrations. Extensive wind tunnel testing allows us to optimize the design for performance throughout the flight envelope and environmental conditions experienced in flight.



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### Model 101 Non-De-iced

Designed for use in high altitude applications above the weather or in clear air at any altitude. Not recommended for long-term severe weather applications as de-icing and anti-icing provisions are not provided. Platinum resistance element available with ice point resistance 50Ω to 500Ω. Conforms to MIL-P-25726B (ASG).



### Model 102 Type Non-De-iced

Designed for use during flight testing and meteorological studies where very fast time response is critical. Inertial particle separation to minimize foreign object damage. Open wire removable platinum resistance element with ice point resistance of 50Ω.



102 Type De-iced Configuration A and Enhanced Anti-Icing Configuration A



102 Type De-iced Configuration B

### Model 102 Type De-iced

Designed for all weather service with either 28 VDC, 115 VAC or 230 VAC heaters, hermetically sealed. Resistance elements available in accordance with ARINC 545, 565, 575 and 706 requirements. Single, dual or triple platinum resistance elements available with ice point resistance 50Ω to 500Ω. Nickel elements with resistance values to 1200Ω. Configuration A conforms to MIL-P-27723E.



### Model 102 Type De-iced and Aspirated

Designed for use with turbine engine take-off setting and auto throttle systems, for accuracies greater than those possible by inputs from control tower outside air temperatures. Eliminates temperature soaking inaccuracies caused by bright sunshine or hot ramp heat radiation. The addition of an air ejector (aspirator) feature, which induces airflow past the sensing element, enhances this sensor's ability to provide reliable temperature indication during ground operation. The housing configuration conforms to MIL-P-27723E. Sensor aspirator requires 7 to 40 psig bleed air at 59°F to 212°F (15°C to 100°C) bleed air temperature.



### Enhanced Performance TAT (EPTAT™)

Enhanced Performance TAT sensors feature a swept-style strut and modified scoop design, offering enhanced performance in supercooled rain and ice-crystal icing conditions. A dual-mandrel, "ruggedized" sensing element eliminates the dual-element failure mode, extends sensor life and offers improved reliability. The design showcases a proprietary self-regulated heater technology, and there are tighter controls on sensing accuracy under aircraft sideslip conditions up to 15° down to Zeta 0.14. EPTAT™ sensors are certified for Airbus aircraft and are available for production or retrofit on all aircraft types.

**For additional information:**  
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