

Ocular's Intelligent Thermal & Power Supervisor System

Featured In:

COTS Journal

The Journal of Military Electronics & Computing

April 2009

Newest Articles



Temperature Management for Panel Displays -

A significant portion of the military's demand for display-based systems is the mobile panel type systems. Serving that need, **Ocular** recently announced a technology called Intelligent Thermal And Power Supervisor (ITAPS) that allows the company's industrial panel PCs to be deployed over the extended temperature range of -20° to +60°C. ITAPS monitors and manages power and temperature to prevent data corruption, ensuring reliable system operation in extremely harsh conditions.

Until now, most panel PCs were limited to the 0° to +50°C temperature range. As a result, many embedded systems operating in harsh conditions could not take advantage of a panel PC or a human-machine interface (HMI). ITAPS is available on Ocular's Denali 7000 Industrial Panel PC platform (Figure 2), which features a 7-in. TFT screen, an x86-based processor and the WinCE operating system. ITAPS will be available on the Denali 1040 Industrial Panel PC with its 10.4-in. TFT display during the second half of 2009. In addition, it can be implemented on any of Ocular's standard embedded processor display platforms as well as customized panel PCs or HMIs.



Figure 2

ITAPS technology monitors and manages system voltage and temperature on the Denali 7000 Industrial Panel PC platform. ITAPS protects the system from being damaged by low and high temperature conditions, under- and over-voltage problems and brown-out and surge events.

By monitoring and managing the panel PC's system voltage and temperature, ITAPS protects the system from being damaged by low and high temperature conditions, under- and over-voltage problems and brown-out and surge events. For example, when the ambient temperature is low, ITAPS heats the system before it attempts to boot start, ensuring the panel PC is at a safe operating temperature before it starts

In high temperature conditions, ITAPS prevents the system from starting to avoid circuit and component damage. If the system is running and the temperature exceeds a safe operating range, ITAPS intervenes directly with the operating system to execute an orderly shutdown. In addition, ITAPS constantly monitors the state of any battery connected to the system and charges the battery when necessary. In the event of a brown-out or power failure, the system can be switched immediately and seamlessly to battery power.