NanoPAK i7
SMALL FORM FACTOR COMPUTER DATA SHEET

THEMIS

OVERVIEW

The small, light footprint and powerful performance of the NanoPAKTM i7 small form factor computer make it an ideal solution for rugged commercial and military field applications. The NanoPAK integrates an Intel® 3rd generation Core™ i7 (Ivy Bridge) processor with FLASH storage in a small, light footprint that optimizes size, weight, power, and cooling.

NanoPAK i7 systems are complete, stand alone computer systems designed for unmanned vehicles, ground vehicles, man-wearable, shipboard, and other extreme environments, where space, weight, power and cost are critical.

Leveraging Themis thermal and kinetic management design expertise, the NanoPAK computer boasts a hardened-aluminum air-cooled chassis that survives harsh environmental conditions. The NanoPAK i7 computer supports field applications that include real time control, data recorders, small storage and communications systems, and mobile robotics. All standard PC interfaces are available. Additional interfaces include discretes.

Ideal for mission-critical applications, the NanoPAK i7 computer boasts robust performance and cost-competitive price make it an attractive choice for military, commercial, and industrial use.

THEMIS VALUE

Themis provides systems manufacturers and end-users with the most modern, best-of-breed computing resources available. Themis listens, understands, and works closely with our customers to optimize computing solutions that are easy to integrate, yet inexpensive to own and operate. Themis solutions achieve the right balance between standard commercial technology and requirements for rugged environments.

General

▸ All I/O and power through 100 pin Micro D-Sub connector on the front of the module and two USB 3.0 connectors on the rear of the module

CPU architecture and Memory

▸ Intel® 3rd Generation Core i7 (Ivy Bridge) Processor
▸ Linux® or Microsoft Windows®
▸ Local or Network PXE boot
▸ Up to 8 GB System Memory

Environmental

▸ Air Cooled
▸ Ambient Temperature: -40° C to + 71° C *

Mechanical

▸ Dimensions (W x H x D): 133 mm X 93 mm X 37 mm (includes fan assembly)
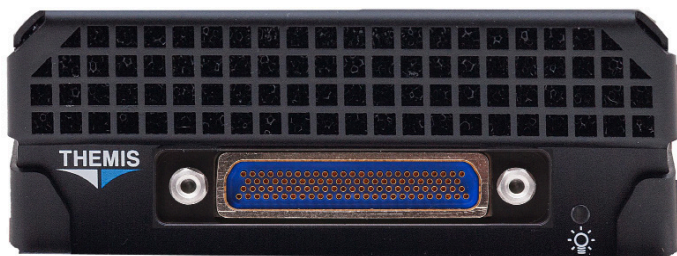▸ Weight .77 Kg (typical)

Applications

▸ Stand Alone Computer
▸ Real Time Control
▸ Data Recorders
▸ Small Storage and Communications Systems
▸ Mobile Robotics

Markings and MIL Specifications

▸ MIL-STD-810G
▸ CE Marking

* Themis designs all products to meet or exceed listed data sheet specifications. Some specifications are configuration dependent.

Processor, CPU, Memory	
Parameter	Description
Architecture	Architecture Intel 3rd Generation Core i7 Mobile
Processor	i7-3517UE (Ivy Bridge)
CPU clock	1.7Ghz (up to 2.8 Ghz in Turbo mode)
Package	FC-BGA1023
Cache memory	4 MB
Number of cores	2
Instruction set	64-bit
CPU power (TDP)	17W (+/- 3Watts thru BIOS setting)
System memory	Up to 8 GB
Memory type	DDR3L-1600
ECC support	Yes
Memory data path	64-bit

Environmental	
Parameter	Description
Cooling method	Air cooled (fan assembly with louvers)
Ambient temperature	-40°C / +71°C Note 1
Storage temperature	-40°C / +85°C
EMI	CE Marking
Shock	50G @ 25ms
Vibration (random)	10Hz-2000Hz; 4.94grms
Humidity	95%
Altitude	10,000 feet
Accoustic noise	39db

Mechanical	
Parameter	Description
Dimensions (W x H x D):	133 mm X 93 mm X 37 mm (includes fan assembly)
Weight	.77 Kg (typical)
LEDs	1

Software and I/O	
Parameter	Description
I/O chipset	Intel PCH - HM76
GPU	Intel HD graphics 4000 engine
VGA	Analog RGB with DDC (resolution up to 2048 x 1536 @ 75Hz)
Ethernet	10 Mbits/s - 100Mbits/s - 1Gb/s Controller i210 with PTP support
USB 2.0	10 ports @ 500mA
USB 3.0	2 ports (0.9A individual connectors
Audio	Line In / Line Out
GPIO	2 inputs (5V-level)
I2C	1 slave port (access to FRU and temperature sensor)
RS-232	2 ports (one port supports modem: RTS,CTS,DTR,DCD,TX,RX)
FRU	8KB Eeprom (AT24C64)
Storage	1 internal mSATA site 64 GB standard (up to 512 GB)
Button	2 (power on and reset)
TPM support	Yes (SLB9635TT1.2)
I/O connectors	Front : 100-pin Micro-D (x1) Cristek C42-01041-100 (mate with CMD100P-LB0000)
Input voltage	9 - 30V
Input power	30W max
Vbattery (voltage)	No internal battery
Vbattery (current)	Only during Power OFF

Notes

1. Temperature specifications are configuration dependent. Please contact Themis for details.

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More Information
For any additional information, go to www.themis.com.

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