

PE8000

Vehicle Computer



Low Intel™ 3rd Gen Core i7 Rugged Computer

The PE8000 General Process Unit is a fully sealed, conduction-cooled computer designed for harsh environment on-the-move applications.

Intel™ 3rd generation Core-i7 processor provides cutting-edge computing capabilities suitable for the most demanding in-vehicle applications.

Being highly integrated and modular in design, the PE8000 can be configured to address a wide range of computational & video processing requirements.

Features:

- Intel™ 3rd generation Core-i7 processor
- 16GB of DDR3 ECC (Upgradable to 32 GB)
- Full complement of standard computer interfaces
- Expansion sites for functionality growth
- CANBus and MIL-STD-1553 vehicle interfaces
- Removable hard drive option for data at rest security
- MILS OS/hypervisor support
- Switching of multiple digital and analog video inputs
- Support for digital video recording and video over Ethernet
- Extended temperature range operation

Technical Information

Processor Unit

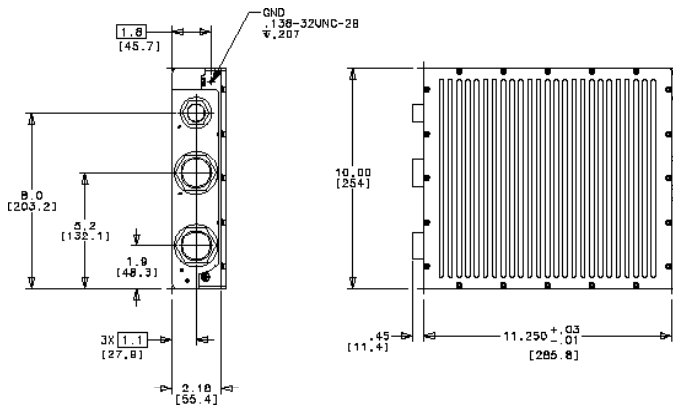
CPU	3rd Gen Dual Core-i7 @ 2.5 GHz or 3rd Gen Quad Core-i7 @ 2.3 GHz
Chipset	Intel™ QM77 with VT-x and VT-d, TXT, TPM
Memory	16 GB DDR3 with ECC (Upgradable to 32 GB)
Graphics	Intel™ Integrated Graphics Controller PEG GPU (nVidia/AMD) embedded option
Storage	Removable solid state SATA3.0 (64 GB and up) Internal solid state SATA2.0 (1 GB - 128 GB) mSATA storage embedded option
Security	High Assurance Platform (HAP) MILS support
OS Support	Microsoft Windows, Linux

Interface

Serial Ports	Up to 8 external serial ports (software configurable RS-232/422/423/485)
Ethernet	Up to 5 Gigabit Ports
USB	Up to 9 USB 2.0 ports and 1 USB 3.0 port
Audio Inputs	2 x stereo microphone or line-in
Audio Outputs	2 x stereo HD Audio
CANBus	Dual MilCAN option
SAASM GPS	GB-GRAM embedded option
MIL-STD-1553	Embedded option
Wireless	WiFi 802.11 a/b/g/n embedded option
Expansion	1 XMC & 2 mPCIe sites (in-lieu of embedded options)

Physical Characteristics

Size	11.25" w x 10" h x 3" d (nominal)
Weight	< 9 lbs
Connectors	Sealed MIL-C-38999
Connectors Sealed	MIL-C-38999



Power Consumption

35 Watts typical with Dual Core-i7@ 2.5GHz CPU
45 Watts typical with Quad Core-i7@ 2.3GHz CPU 90W maximum

Video

Video Input	Up to 8 NTSC/PAL/RS170A 1 VGA (up to 1920x1200 WUXGA resolution) 1 SD, HD or 3G SDI
Video Output	1 VGA (up to 1600x1200 UXGA resolution) 5 NTSC/PAL/RS-170A
Video Switching	Software controlled; external command
Processing	Low latency, processor independent
Viewscape™	Optional video output drives of picture-in-picture, multi-view, filmstripping and overlays
Video Capture	Optional digitizing and encoding (MPEG4/H264) of 4 simultaneous video inputs for storage or network distribution

Environmental Conditions

Operating Temperature	-46°C to +71°C
Storage Temperature	-51°C to +71°C
Vibration	MIL-STD-810F Method 514.5, Procedure 1 Composite Tracked and Wheeled Vehicle
Shock	MIL-STD-810F Operational: Method 516.5, Procedure I Bench Handling: Method 516.5, Procedure VI Crash Hazard: Method 516.5, Procedure V
Water Tightness	MIL-STD-810F Method 512.4, Procedure I
Altitude	MIL-STD-810F Method 500.4, Proc. I & II
Humidity	MIL-STD-810F Method 507.4
Sand Dust	MIL-STD-810F, Method 510.4 Proc. I & II
Explosive Atmosphere	MIL-STD-810F, Method 511.4 Procedure I
Salt Fog	MIL-STD-810F, Method 509.4
Power	MIL-STD-1275D
EMI/EMC	MIL-STD-461F
Other	Nuclear hardened (optional) (WSMR tested)

General Dynamics products are based on proven, configurable modules and are available in standard or custom configurations. This product sheet describes many of the options for this product family. For availability and details of specific configurations or for custom requirements, please contact General Dynamics.

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