



PC8

All-In-One Intel® Celeron® M Computer

Features

- Intel® Celeron® M processor up to 1.5 GHz
- 1 Gbyte DDR SDRAM
- 852GM/ICH4 Chipset Combination
- 3x PC/104-Plus extension slots
- 2x 10/100 Ethernet
- 4x serial I/O: COM1 and COM2: RS-232/422; COM3 and COM4: RS-232/485 with optional opto-isolation
- 2x USB 2.0 ports
- Optional CAN interface
- VGA up to 1600 x 1200
- DVI-D Interface (PanelLink®)
- 1x IEEE 1284 parallel port
- Optional 2.5" hard disk or Flash drive
- RoHS compliant

PC8 is an industrial all-in-one computer with integrated power supply installed in a very compact EMI protected metal housing supporting DINrail mounting. It is designed to meet the needs of embedded applications such as machine control, communication, data processing, data acquisition, etc. It addresses Industrial Automation, Kiosk, Measurement, and similar markets. Windows® XP is the supported operating system.

The all-in-one concept with flexible processor and RAM configurations and an impressive array of peripherals including video interface, Ethernet, HD, USB 2.0 and optional PanelLink® combined with a customer specific assembly service provides optimized price/performance for all kinds of OEM applications.

Special features include:

- Four RS-232 serial channels with optional RS-485 (COM3 and COM4)
- Six digital opto-isolated I/O lines.
- Optional CAN port with CAN library and CANopen protocol stack

Three PC/104-Plus slots enable customer specific extensions such as Interbus-S, Profibus and Device-Net.



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Specifications

Processor

- Intel® Celeron® 600 MHz or 1.5 GHz
- High efficiency on-board switching regulator (DC/DC)
- Fanless cooling with heatsink (Celeron, 600 MHz)

Chipset - Intel 852GM

- 400 MHz front side bus

Memory - PC2100

- 1 Gbyte DDR SDRAM

NVSRAM

- 32 Kbyte non-volatile SRAM

PC/104-Plus Extension Slots

- 32-bit PCI bus and 16-bit ISA bus interface
- Stackable for Profibus or Interbus-S
- See Power Allowances section for voltage information (Only two slots available with internal floppy drive)

Drives

- Hard drive: 80G internal 2.5" (optional)
- Floppy drive: internal 3.5" (optional)
- Compact Flash 512 MB to 8 GB (optional)

VGA and DVI-D

- Intel® 82852
- 3D/2D Windows Accelerator with LCD flat panel interface
- DVI-D interface (Panellink®)

Fast Ethernet (2x)

- 10/100 Mb/s controller with PCI local bus DMA
- 10Base-T and 100Base-TX auto-negotiation interface
- One port via ICH4 internal MAC with 82562ET Phy, second port via 82551ER controller

EIDE

- Ultra DMA/100 sync.
- DMA mode up to 100 Mbyte/s
- PIO mode 4 and bus master IDE up to 16 Mbyte/s
- 3 (4) devices supported via local IDE connector and external I/O

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Serial I/O (4x) - RS-232/422/485

- Four async. 16550-compatible full-duplex serial channels
- High speed transfer up to 115.2 kb with 16 byte FIFOs
- COM1, COM2: RS-232 or 422 interface
- COM3, COM4: RS-232 or 485 interface
- Optional opto-isolation on COM3, COM4 in RS-485 mode

Parallel Port (1x)

- Bi-directional
- IEEE 1284 compatible enhanced parallel ports (including EPP and ECP) for printer or general purpose I/O

CAN Interface

- Optionally available
- Optically isolated CAN bus interface
- Based on Philips SAJ1000
- Optional with CAN library and CANopen protocol stack

Temperature Sensor

- CPU junction temperature software readable from -55° C to +125° C, 1.0° C increments.
- Unit internal ambient temperature software readable from -55° C to +125° C, 1.0° C increments

Speaker

- Internal speaker

Status LEDs

- Power: green
- Hard drive: yellow
- User status: red (software programmable)

Opto-Isolated I/O

- Two isolated inputs (TTL or 24V)
- Four isolated outputs

Floppy

- One channel 3.5" floppy drive controller

USB

- Two USB 2.0 channels up to 480 Mb/s

Keyboard and Mouse

- PS/2 compatible

Real-Time Clock

- RTC 146818 compatible

CMOS RAM

- 114 bytes non-volatile CMOS RAM

CMOS Backup

- Removable on-board Li-battery

EEPROM

- 4 kbit serial EEPROM for non-volatile user data

Watchdog

- Activates reset under software control

BIOS Features

- AMI BIOS, in-system programmable Flash ROM
- CPU, memory and IDE auto-detection/selection
- Integrated VGA and Ethernet BIOS ROM
- Password protection, BIOS post, system and video

Power Requirements

- 10 to 30 VDC with EMI filter

Power Consumption

- Typical Current @ +24V, 1 GB RAM with hard drive and floppy drive, without PC/104+ module
- Power consumption is approximately 10% higher at maximum voltage
- 600 MHz 22W, 1.5 GHz 31W (Operating Windows® XP, Exercising CPU and I/O to simulate loaded conditions)

Power Allowances - PC/104+

- +5V, +3.3V: total power 7.5W
- +3.3V: max. 1 A
- ±12V: max. 80 mA each with ±12V DC/DC option

Electromagnetic Compatibility

- CE compliant
- EN 50082-2 and EN 50081-2/55022 (emission)
- EN 61004-4-5 (surge immunity)

Mechanical

- Industrial aluminum housing for optimal thermal management
- Protection against particles greater than 12.5mm (IP 20)
- 5.7" x 9.02" x 3.6" (HxWxD)
- 145 mm x 229 mm x 92 mm
- Cooling with fan and removable air filter required for 1.5 GHz CPU

Humidity

- Operating: 5% to 95% @ 40° C (non-condensing)
- Storage: 5% to 95% @ 40° C (non-condensing)

Altitude

- Operating: 15,000 ft. (4.5 km)
- Storage: 40,000 ft. (12 km)

Vibration

- 5.08 mm displacement (p-p) @ 5 to 14 Hz, 2 g rms @ 14 to 200 Hz, 90 minutes each axis, 17 sweeps (without fan or mechanical drives)

Safety

- All PWBs are manufactured with a flammability rating of 94V-0 by UL recognized manufacturers.

Standard Temperature Ranges

(Complete board may be limited to a smaller temperature range by mounted PC/104-Plus module)

- Operating: 0° to +50° C (with mechanical drives: 5° to +40° C)
- Storage: -40° to +85° C (with mechanical drives: -40° to +65° C)

Extended Temperature Ranges

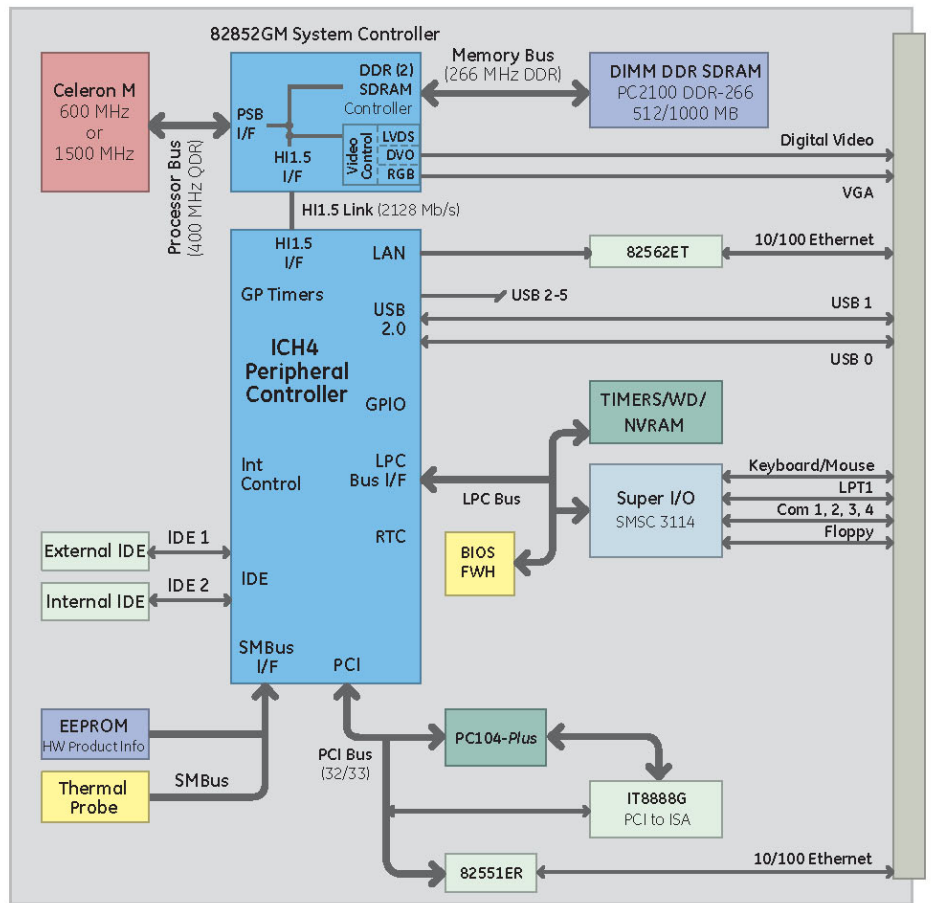
(Complete board may be limited to a smaller temperature range by mounted PC/104-Plus module)

- Operating: -40° to +50° C (without mechanical drives)
- Storage: -40° to +85° C (without mechanical drives)

NOTE: Extended temperature range not available with mechanical drives

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Block Diagram



Ordering Information

PC8121100401: 600 MHz Celeron M, 1 Gbyte SDRAM, 4 Gbyte Flash drive, RoHS

PC8121100601: 600 MHz Celeron M, 1 Gbyte SDRAM, 80 Gbyte HDD, RoHS

For other configurations including CAN interface, contact GE Fanuc Intelligent Platforms

About GE Fanuc Intelligent Platforms

GE Fanuc Intelligent Platforms is a leading global provider of embedded computing solutions for a wide range of industries and applications. Our comprehensive product offering includes many types of I/O, single board computers, high performance signal processors, fully integrated, rugged systems including flat panel displays, plus high speed networking and communications products. The company is headquartered in the U.S. and has design, manufacturing and support offices throughout the world. Whether you're looking for one of our standard products or a fully custom solution, GE Fanuc Intelligent Platforms has the breadth, experience and 24/7 support to deliver what you need. For more information, visit www.gefanuc.com.

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Additional Resources

For more information, please visit the GE Fanuc Intelligent Platforms web site at:

www.gefanuc.com

