

IPPC-9151G IPPC-9171G

15" XGA/17" SXGA LED backlight TFT LCD Intel® Core™ i7/i5/i3 Celeron® Mobile Processor Industrial Panel PC with 1 x PCIe Slot

NEW



Features

- Intel® Core™ i7/i5/i3 Celeron® μFC-PGA988 processor with Intel® QM67 chipset
- 15" XGA/17" SXGA LED backlight LCD with low power consumption
- Front access USB connector
- Supports 1 xPCIe x1 or 4 (Gen2) (PCI optional)
- Heavy-duty stainless steel chassis with aluminum front panel
- Strengthened glass protects the front panel from shock damage and is IP65 compliant
- Supports dual display of HDMI, LVDS, VGA
- Supports 1 x 2.5" SATA II or SATA III HDD and 1 x CFast
- Hard anodic coating to prevent panel abrasion and acid corrosion
- Supports embedded software APLs and Utilities

Introduction

IPPC-9151G/IPPC-9171G is a fully functional computer system with front USB access, with Intel® mobile Core i7-2710QE 2.1GHz/Core i5-2510E 2.5 GHz/Core i3-2330E 2.2 GHz /Celeron® B810 1.6 GHz processors up to 6 MB L3 cache and DDR3 SO-DIMM 1066/1333 up to 8 GB and a resolution up to 1024 x 768 to meet the demands of today's high-end industrial software. The IPPC-9151G/IPPC-9171G is a rugged unit with an aluminum panel, 15"/17" TFT LCD with LED backlight, a stainless steel structure and a PCIe slot. The IPPC-9151G/9171G is rugged enough to handle the toughest industrial operating environments. With optional mounting accessories, from panels to racks, it can be mounted anywhere.

Specifications

General

- BIOS** AMI EFI 64 Mbit SPI
- Certification** BSMI, CCC, CE, FCC, UL
- Cooling System** 2 x 10.1 CFM fans w/50,000 hrs MTBF
- Dimensions (W x H x D)**
IPPC-9151G: 428 x 310 x 96.5 mm (16.35" x 12.2" x 3.79")
IPPC-9171G: 482 x 354.8 x 98 mm (18.98" x 13.97" x 3.86")
- Disk Drive Bay** Supports 1 x 2.5" SATA II or SATA III HDD
- Enclosure** Stainless steel back case, 10 mm aluminum front panel
- Mounting** Panel, rack
- Power Input** 100–240 V_{AC} @ 4A 50–60Hz
- Power Supply** 180 W, MTBF: 100,000 hrs
- Weight (Gross)**
IPPC-9151G: 10.52 Kg (23.19 lbs)
IPPC-9171G: 14 Kg (30.86 lbs)

System Hardware

- CPU** Supports uFC-PGA988 Intel® mobile Core i7-2710QE 2.1 GHz/Core i5-2510E 2.5 GHz/Core i3-2330E 2.2 GHz/Celeron® B810 1.6GHz processor
- Chipset** Intel® 6 series chipset (QM67)
- Audio Ports** Mic-in, Line-out, Line-in
- Expansion Slots** Supports 1 x PCIe x1 or x4 (PCI optional)
- PS/2** 1 x keyboard and 1 x mouse
- LAN** 2 x 10/100/1000 Mbps
- Memory** 2 x 204 pin DDR3 1066/1333 SODIMM sockets supports up to 8GB (2 x 4GB)
- CFast** 1 x CFast slot
- I/Os** 1 x VGA; 1 x HDMI; 5 x USB 2.0 (one at front); 4 xRS-232

LCD Display

- LCD Display Type** IPPC-9151G: XGA TFT LCD with LED Backlight
IPPC-9171G: SXGA TFT LCD with LED Backlight
- Display Size** IPPC-9151G: 15"; IPPC-9171G: 17"
- Max. Resolution** IPPC-9151G: 1024 x 768; IPPC-9171G: 1280 x 1024
- Max. Colors** IPPC-9151G: 16.2M or 256K Color
IPPC-9171G: 16.7M colors (RGB 6-bits +Hi-FRC data)
- Viewing Angle (H/V°)** IPPC-9151G: 160/140; IPPC-9171G: 170/160
- Luminance** IPPC-9151G: 350 cd/m²; IPPC-9171G: 380 cd/m²
- Backlight Life** 50,000hrs
- Contrast Ratio** IPPC-9151G: 700:1; IPPC-9171G: 400:1

Touchscreen

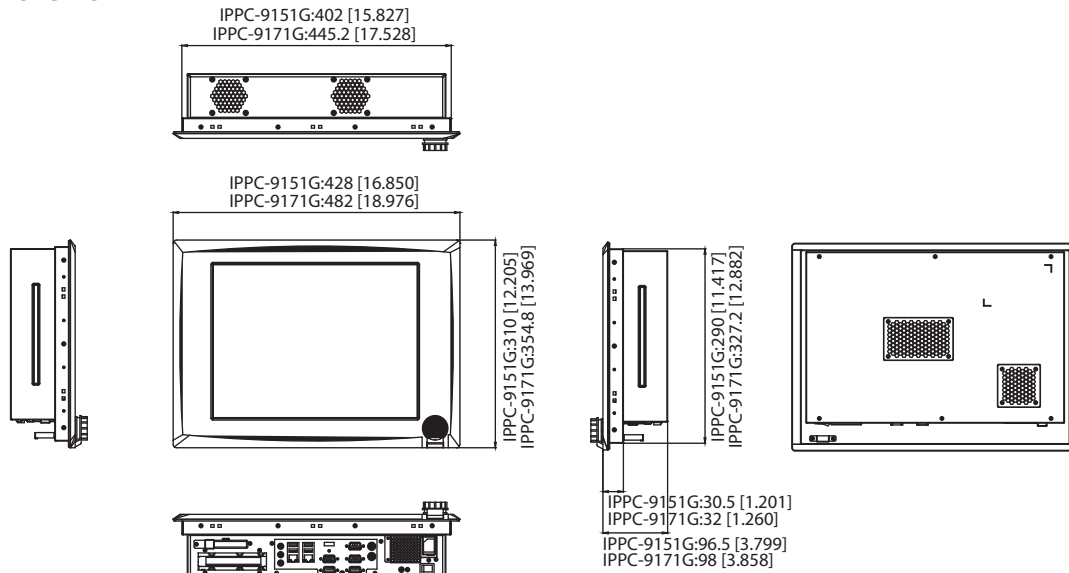
- Lifespan** 36 million with a silicone rubber of R8 finger, writing rate is by 250g at 2 times/s
- Light Transmission** > 80%
- Type** Analog resistive (5-wire)

Environment

- Humidity** 5 – 85% @ 40°C (non-condensing)
- Ingress Protection** Front panel: IP65
- Operating Temperature** 0 – 50°C (32 ~ 122°F)
- Storage Temperature** -20 – 60°C (-4 ~ 140°F)
- Vibration Protection** 5 – 500 Hz, 1 G_{RMS} random vibration

Dimensions

Unit: mm



Panel Cut-out Dimensions: IPPC-9151G: 404 x 292mm (15.90" x 11.49")
IPPC-9171G: 447.5 x 329.5mm (17.618" x 12.972")

Ordering Information

- **IPPC-9151G-R1AE** 15" XGA Intel® Core™ i7/i5/i3 Celeron with TS
- **IPPC-9171G-R1AE** 17" SXGA Intel® Core™ i7/i5/i3 Celeron with TS

Accessories

- **IPPC-9151G-RMKE** (IPPC-9151G) Mounting Kit for standard 19" industrial rack
- **IPPC-9151G-EPRE** IPPC-9151G/9171G-R1AE PCI Riser card

Notes:

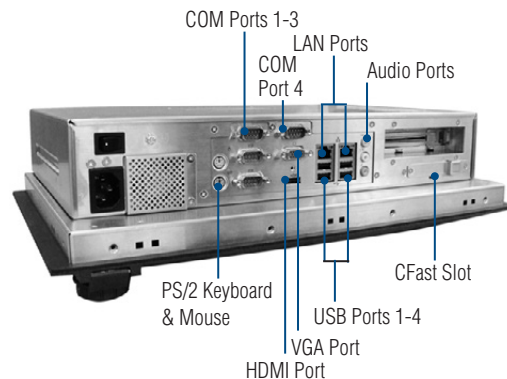
1. When used in a panel mounted environment, the panel's thickness can not be over 10mm.

| | |
|-------------------|--|
| 1702002600 | Power Cable US Plug 1.8 M |
| 1702002605 | Power Cable EU Plug 1.8 M |
| 1702031801 | Power Cable UK Plug 1.8 M |
| 1702031836 | Power Cable China/Australia Plug 1.8 M |

2. Dual Display

| | |
|------------------------|-------------|
| Primary Display | LCD |
| Second Display | CRT or HDMI |

I/O Overview



Value-Added Software Services

Software API: An interface that defines the ways by which an application program may request services from libraries and/or operating systems. Provides not only the underlying drivers required but also a rich set of user-friendly, intelligent and integrated interfaces, which speeds development, enhances security and offers add-on value for Advantech platforms. It plays the role of catalyst between developer and solution, and makes Advantech embedded platforms easier and simpler to adopt and operate with customer applications.

Software APIs

Control



GPIO

General Purpose Input/Output is a flexible parallel interface that allows a variety of custom connections. It allows users to monitor the level of signal input or set the output status to switch on/off a device. Our API also provides Programmable GPIO, which allows developers to dynamically set the GPIO input or output status.



Hardware Control

The Hardware Control API allows developers to set the PWM (Pulse Width Modulation) value to adjust fan speed or other devices; it can also be used to adjust the LCD brightness.

Display



Brightness Control

The Brightness Control API allows a developer to interface with an embedded device to easily control brightness.



Backlight

The Backlight API allows a developer to control the backlight (screen) on/off in an embedded device.

Monitor



Watchdog

A watchdog timer (WDT) is a device that performs a specific operation after a certain period of time if something goes wrong and the system does not recover on its own. A watchdog timer can be programmed to perform a warm boot (restarting the system) after a certain number of seconds.



Hardware Monitor

The Hardware Monitor (HWM) API is a system health supervision API that inspects certain condition indexes, such as fan speed, temperature and voltage.

Power Saving



CPU Speed

Make use of Intel SpeedStep technology to reduce power consumption. The system will automatically adjust the CPU Speed depending on system loading.



System Throttling

Refers to a series of methods for reducing power consumption in computers by lowering the clock frequency. These APIs allow the user to lower the clock from 87.5% to 12.5%.

CPU Compatibility

| CPU Family | Speed | Spec. | Core Stepping | TDP | L3 cache | Advantech PN |
|--------------------|---------|-------|---------------|------|----------|------------------|
| Intel i7-2710QE | 2.1 GHz | SR02T | D-2 | 45 W | 6 MB | 96MPI7M-2.1-6M9T |
| Intel i5-2510E | 2.5 GHz | SR02U | D-2 | 35 W | 3 MB | 96MPI5M-2.5-3M9T |
| Intel i3-2330E | 2.2 GHz | SR02V | D-2 | 35 W | 3 MB | 96MPI3M-2.2-3M9T |
| Intel Celeron B810 | 1.6 GHz | - | D-2 | 35 W | 2 MB | 96MPCM-1.6-2M9T |

Memory Compatibility

| Brand | Size | Speed | Type | ECC | Vendor PN | Memory | Advantech PN |
|-----------|------|-----------|-------------|-----|------------------------------|---------------------------------------|-------------------|
| Transcend | 1GB | DDR3 1066 | SODIMM DDR3 | N | TS128MSK64V1U/TS2KSU28200-1S | SEC K4B1G0846D-HCF8 (128x8) | 96SD3-1G1066NN-TR |
| | 1GB | DDR3 1066 | SODIMM DDR3 | N | TS128MSK64V1U | SEC HCH9 K4B1G0846D (128x8) | 96SD3-1G1066NN-TR |
| | 2GB | DDR3 1066 | SODIMM DDR3 | N | TS256MSK64V1U/TS5KSU28400-1S | SEC K4B1G0846D-HCF8 (128x8) | 96SD3-2G1066NN-TR |
| | 2GB | DDR3 1066 | SODIMM DDR3 | N | TS128MSK64V1U | SEC HCH9 K4B1G0846D (128x8) | 96SD3-2G1066NN-TR |
| | 4GB | DDR3 1066 | SODIMM DDR3 | N | TS7KSN28420-1Y | HYNIX H5TQ2G83BFR (256x8) | 96SD3-4G1066NN-TR |
| Apacer | 1GB | DDR3 1066 | SODIMM DDR3 | N | 78.02GC3.420 | ELPIDA J1108BDBG-DJ-F (128x8) | 96SD3-1G1066NN-AP |
| | 2GB | DDR3 1066 | SODIMM DDR3 | N | 78.A2GC3.421 | ELPIDA J1108BDBG-AEE (128x8) | 96SD3-2G1066NN-AP |
| | 4GB | DDR3 1066 | SODIMM DDR3 | N | 78.B2GC8.AF1 | HYNIX H5TQ2G83BFR (256x8) | 96SD3-4G1066NN-AP |
| Kingston | 2GB | DDR3 1066 | SODIMM DDR3 | N | KVR1066D3S7/2G | KVR1066D3S7/2G (256x8) | - |
| DSL | 1GB | DDR3 1066 | SODIMM DDR3 | N | - | ELPIDA J1108BASEDJ-E (128x8) | - |
| | 4GB | DDR3 1066 | SODIMM DDR3 | N | D3SH56082XH18AB | HYNIX H5TQ2G83BFR (256x8) | - |
| Micron | 1GB | DDR3 1066 | SODIMM DDR3 | N | MT&JSF12864HZ-1G1F1 | Micron 9FF27 D9KPT (128x8) | - |
| Samsung | 2GB | DDR3 1066 | SODIMM DDR3 | N | M471B5673DH1-CF8 | SEC 904 HCF8 K4B1G0846D (128x8) | - |
| G.SKILL | 4GB | DDR3 1066 | SODIMM DDR3 | N | F3-8500CL7S-4GBSQ | HYNIX H5TQ2G83AFRG7C (256X8) | - |
| Transcend | 1GB | DDR3 1333 | SODIMM DDR3 | N | TS128MSK64V3U | SEC 849 HCH9 K4B1G0846D (128x8) | - |
| | 2GB | DDR3 1333 | SODIMM DDR3 | N | TS256MSK64V3U | SEC 904 HCF8 K4B1G0846D (128x8) | - |
| | 4GB | DDR3 1333 | SODIMM DDR3 | N | TS512MSK64V3N | HYNIX H5TQ2G83BFR (256x8) | - |
| Apacer | 1GB | DDR3 1333 | SODIMM DDR3 | N | 78.02GC6.420 | ELPIDA J1108BDBG-DJ-F (128x8) | 96SD3-1G1333NN-AP |
| | 2GB | DDR3 1333 | SODIMM DDR3 | N | 78.A2GC6.421 | ELPIDA J1108BDBG-DJ-F (128x8) | 96SD3-2G1333NN-AP |
| | 4GB | DDR3 1333 | SODIMM DDR3 | N | 78.B2GC9.AF1 | HYNIX H5TQ2G83BFR (256x8) | - |
| DSL | 1GB | DDR3 1333 | SODIMM DDR3 | N | D3SE28081XH15AA | ELPIDA J1108BDESDJ- F (128x8) | - |
| | 2GB | DDR3 1333 | SODIMM DDR3 | N | D3SE28082XH15AA | ELPIDA J1108BDESDJ- F (128x8) | - |
| | 4GB | DDR3 1333 | SODIMM DDR3 | N | D3SH56082XH15AA | HYNIX H5TQ2G83BFR (256x8) | - |
| Kingston | 1GB | DDR3 1333 | SODIMM DDR3 | N | KVR1333D3S9/1G | ELPIDA J1108BDBG-DJ-F (128x8) | - |
| | 2GB | DDR3 1333 | SODIMM DDR3 | N | KVR1333D3S9/2G | ELPIDA J1108BDBG-DJ-F (128x8) | - |
| ATP | 4GB | DDR3 1333 | SODIMM DDR3 | N | AW12M64F8BKH9S | SEC 019 HCH9 K4B2G0846C (256x8) | - |