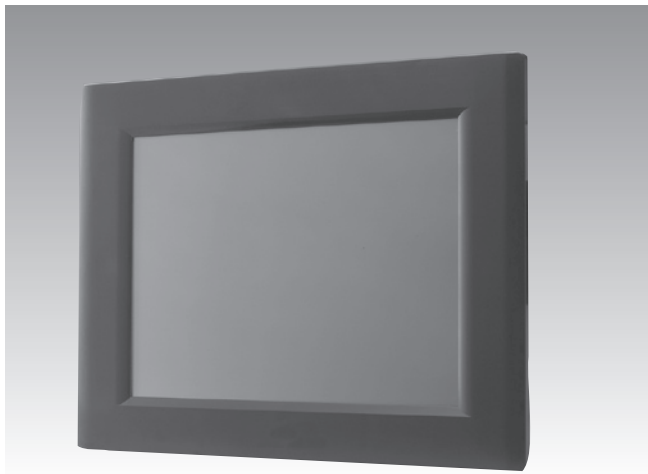# PPC-L156T

15" Fanless Panel PC with Intel Celeron M® Pentium M® Processor

Features

- 15" TFT XGA LCD
- Embedded Intel® ULV Celeron® M 1.0 GHz/Pentium® M 1.1 GHz
- Support for up to 2 GB Double Data Rate (DDR) memory
- Two built-in 1 W speakers
- Fanless and ultra-low power consumption
- Automatic data flow control over RS-485
- Removable front bezel
- Optional Smart Battery Module with UPS functionality
- Optional wireless antenna and one optional PCI expansion kit

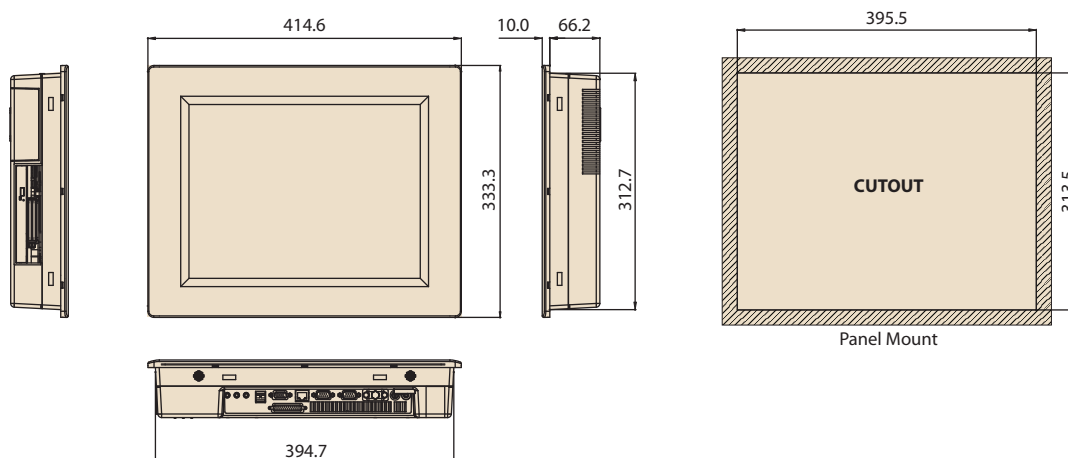RoHS COMPLIANT 2002/95/EC | Windows Embedded | CE | CCC | FC | c(UL)us

Introduction

The PPC-L156T is a 15" fanless panel computer which is the ideal solution for low noise operating environments and clean room applications. PPC-L156T has two power sources; an optional battery pack and an AC power supply. The battery charges when the PPC-L156T is connected to the AC power adapter. The optional rechargeable battery pack has more than 60 minutes battery life and can be used as a UPS during expected loss of power. The PPC-L156T meets the VESA standard for mounting holes so it can be used in many different kinds of installations. The front bezel can be removed to make maintenance of the LCD and touchscreen easier and quicker.
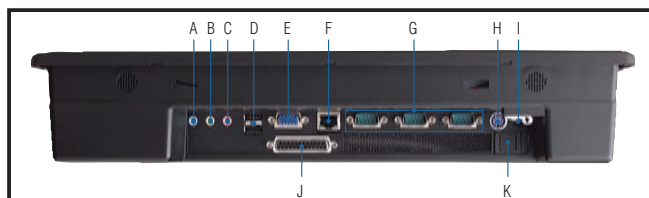
Specifications

Processor System	CPU	Embedded Intel ULV Celeron 1.0 GHz, Embedded Intel Pentium M 1.1 GHz		
	Secondary Cache	PPC-L156T-R83-XE: None; PPC-L156T-R81-XE: 1 MB		
	Chipset	Intel 852GM/ICH4 (PPC-L156T-R83-XE), Intel 855GME/ICH4 (PPC-L156T-R81-XE)		
	Memory	2 x 200-pin SODIMM sockets, supporting DDR200/266 modules for up to 2 GB Standard is built-in 256 MB		
	BIOS	AWARD 4 Mbit Flash BIOS		
	SSD	Supports CompactFlash card Type I/II		
	HDD	1 x internal 2.5" IDE interface		
	I/O Ports	- 3 x serial: 2 x RS-232, 1 x RS-232/422/485 (COM2) - 4 x USB 2.0 ports: 2 x external, 2 x internal - 1 x PS/2 mouse and keyboard port - 1 x VGA port, 1 x parallel port	- 2 x built-in speakers (1 W each) - 2 x type II PCMCIA ports - Line-in, Line-out & Mic-in port	
	Bus Expansion	1 x Mini PCI socket and 1 x 32-bit PCI expansion kit (optional)		
	Dimensions (W x H x D)	415 x 333 x 76.5 mm (16.3" x 13.1" x 3.0")		
	Weight	6 kg (13.2 lb)		
	COMBO Drive	Optional DVD/CD-RW 8D/24W/24E/24R or above		
OS support		Microsoft Windows XPE, CE, XP pro, 2000		
Ethernet	Chipset	Intel 82551QM, and 82541GI		
	Speed	10/100 Mbps; 10/100/1000 Mbps (optional)		
Power Supply	DC to DC Converter	Input voltage: 18 ~ 25 V_{DC}		
	AC to DC Converter	- Input Voltage: 100 ~ 240 V_{AC} @ 50 ~ 60 Hz - Output Voltage: 19 V @ 3.16 A		
LCD Display	Display Type	15" Color TFT LCD		
	Max. Resolution	1024 x 768		
	Max. Colors	262 K		
	Dot Size (mm)	0.297 x 0.297		
	Luminance (cd/m²)	350 cd/m²		
	Viewing Angle	60° (left), 60° (right), 40° (up), 60° (down)		
	Operating Temperature	0 ~ 50° C (32 ~ 122° F)		
	Brightness Adjustment	Yes		
	Backlight Lifetime	50,000 hours		
Touchscreen (Optional)	Types	Analog Resistive 5 wires	Capacitive	Infrared
	Resolution	Continuous	1024 x 1024	4096 x 4096
	Light Transmission	80%	90%	90%
	Controller	RS-232 Interface (uses COM4)		
	Power Consumption	+5 V @ 200 mA	+5 V @ 100 mA	+5 V @ 100 mA
	Software Driver	Supports both DOS and Windows		
	Durability (Touches)	35 million	225 million	100,000 hrs
Environmental Specifications	Operating Temperature	0 ~ 45° C (32 ~ 113° F) ; 0-40° C with Battery Pack		
	Relative Humidity	10 ~ 95% @ 40° C, non-condensing		
	Shock	10 G peak acceleration (11 ms duration)		
	Vibration	1 G		
	EMC	CE, FCC Class B, BSMI		
	Safety	CE-CB, UL, BSMI, CCC		
	Front Panel Protection	IP65/NEMA4 compliant		

Dimensions

Unit: mm (inch)

414.6   10.0   66.2

333.3

312.7

395.5

CUTOUT

313.5

Panel Mount

394.7

Fully Integrated I/O

A B C   D   E   F   G   H I

J   K

A. Line-in
B. Line-out
C. Mic-in
D. USB 2.0 x 2
E. VGA port
F. 10/100 Mbps Ethernet

G. COM port x 3
H. PS/2 mouse and keyboard port
I. DC inlet
J. Parallel port
K. Power switch

Feature Details

Protection

To meet the requirements of a public environment, the front panel of PPC-L156T complies with the IP65/NEMA4 protection standard. The watchdog timer and power management features make the system secure and stable. The onboard hardware monitoring feature provides automatic protection that prevents the CPU from overheating.

Networking

Three serial ports and a 10/100 Mbps Ethernet port (Gigabit optional) give the PPC-L156T advanced networking capabilities, and provide a great solution for versatile applications.

Expansion

To extend functionality, the PPC-L156T is designed with one expansion slot for 32-bit PCI cards, one mini-PCI socket, four USB 2.0 (Univeral Serial Bus) ports, two RS-232 ports, one RS-232/422/485 port, one VGA port, and two PCMCIA CardBus ports. With these expansion capabilities, the PPC-L156T not only functions as an HMI, but also as a computing center to build your applications on.

Easy Maintenance

Maintaining and replacing the LCD and touchscreen are made easier through the PPC-L156T's modular design. In order to replace a defective LCD or touchscreen, one merely needs to remove the front cover and LCD bracket instead of disassembling the whole system.

Touchscreen Options

Customers can choose from three optional types of standardized touchscreens: resistive, capacitive and infrared. These options make the PPC-L156T a more user-friendly interface for different environments.

Ordering Information

Part No.	Description
PPC-L156T-083-XE	Intel ULV Celeron M 1.0 GHz Processor-based Fanless Panel PC with 15"TFT LCD
PPC-L156T-R83-XE	Intel ULV Celeron M 1.0 GHz processor-based Fanless Panel Computer with 15" TFT LCD, Resistive Touchscreen
PPC-L156T-R81-XE	Intel Pentium M 1.1 GHz processor-based Fanless Panel Computer with TFT 15" LCD, Resistive Touchscreen
PPC-L156T-C83-XE	Intel ULV Celeron M 1.0 GHz processor-based Fanless Panel Computer with TFT 15" LCD, Capacitive Touchscreen
PPC-L156T-C81-XE	Intel Pentium M 1.1 GHz processor-based Fanless Panel Computer with TFT 15" LCD, Capacitive Touchscreen
PPC-L156T-V83-XE	Intel ULV Celeron M 1.0 GHz processor-based Fanless Panel Computer with TFT 15" LCD, vandal proof infrared touchscreen (meets 60950/UL1950)
PPC-L156T-V81-XE	Intel Pentium M 1.1 GHz processor-based Fanless Panel Computer with TFT 15" LCD, vandal proof infrared touchscreen (meets 60950/UL1950)
PPC-S15X Stand-BLK	Desktop Stand, Black, PPC-S15X
PPC-ARM-A03	VESA Standard ARM for PPC series
PPC-174 WL-MT	Wall mount kit for PPC-174T
PPC-EXP-L156	PCI expansion kit for PPC-L156T
989KL15600E	Wireless LAN module
989KL15611E	COMBO module for PPC-L156T
989KL15612E	CD-ROM module for PPC-L156T serial
989KL15613E	USB 2.0 x 2 module
176000797	Smart Li-ion 3S2P11.1V4400mAh-BQ2000/L126/L156
1700001542	POWER CABLE 3P/3P POWER SUPPLY 1.8M FPM-306
170203183C	Power CABLE 3P Europe (WS-010+083)183cm