

7"~12.1" Fanless All-in-One Touch Panel PC

# AFL-9103 / AFL-CX2

AFL-CX2 and AFL-9103 product series is an all-in-one system designed around a highly integrated VIA Eden™ and Intel® Celeron® M single board computers. It supports touch panel displays form 7-inch WVGA to 12.1-inch XGA TFT panels and offers multiple expansions and I/Os. A rugged IP 64 compliant waterproof front panel is impervious to water vapor and dust making these systems ideal for factory automation applications, POS systems and other application in harsh environments.



## Compact

7"~12.1" industrial-grade Panel PC for small interface requirements such as Human Machine Interfaces (HMI) and building automation.

*Slim and light weight!*

## Fanless

Operated by the VIA Eden™ and Intel® Celeron® M CPU on board with system memory up to 2GB (maximum for AFL-9103 series) DDR2 meets multimedia and embedded high performance job requirements.

## Simple

With streamlined mechanical layout, and no more abundant functions built in.

*All-in-one easy to use!*



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## Complete Solutions for You

### A. AFL-9103 Series

▶ 10.4"~12.1" High Performance

All-in-One Touch Panel PC

**Embedded High Computing Performance**

The slim Intel® 910GML E powered all-in-one systems is a high-performance, low-power all-in-one systems. The AFL-9103 series is ideal for processing-intensive applications that require superior computing performance.



### B. AFL-CX2 Series

▶ 7"~12.1" Multimedia Enjoyment

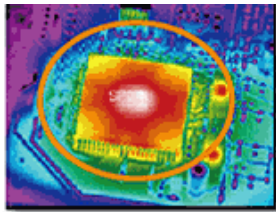
All-in-One Touch Panel PC

**Flawless digital media playback with ultra-low CPU-utilization**

A VIA CX700M chipset is embedded in the AFL-CX2 series. The VIA UniChrome™ Pro II graphic core in the VIA CX700M supports popular digital video and audio formats.

The graphic core employs a multi-faceted approach to displaying multimedia content. It implements a number of advanced tools to ensure





With low power consumption benefit, BGA type enhances thermal performance and system stabilities significantly.

Processor	Intel® Celeron® M 1.0 GHz/ 512k Cache
Chipset	Intel® 910GML
Memory	one 200-pin 2GB (maximum) DDR2 SO-DIMM

These include integrated MPEG-2, MPEG-4, and WMV9 decoding, for flawless digital video playback with ultra-low CPU-utilization.

**Without Hardware Decoder**

• Lagged image with Higher CPU usage



**With Hardware Decoder**

• Good image quality with Lower CPU usage



Processor	VIA Eden 1 GHz ULV
Chipset	VIA CX700M
Memory	one 200-pin 1GB (maximum) DDR2 SO-DIMM

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## ▶ Various Applications

### A. Vehicle PC

7"~12.1" small size industrial grade AFOLUX PPC is ideal for in-vehicle systems in trucks, public transport vehicles, and police cars. AFOLUX PPC used in car navigation systems and as rear-seat entertainment systems are able to withstand vibrations caused by the motion of the vehicle.



We Offer:

- 16:10 wide screen and 350 nits high brightness for better viewing (AFL-07A-CX2)
- Integrated a touch panel for interactive
- Offering a fanless, clean, silent and smooth operation
- Internal Speakers (1.5W/1.5W)
- Bluetooth technology for peripherals extension
- One audio line out extends voice functions
- 3.5G HSDPA for mobile communications (Optional for 10.4"/12.1" models)

### Enhanced Features:

#### 1. Wireless Short-range communications

A preinstalled Bluetooth module communicates with a wide range of electronic products from PDAs, cellular phones and printers, to barcode readers.



## 2.HSDPA Mobile Solution (Optional)

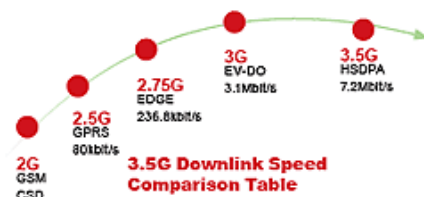
An optional IEI HSDPA module on the AFOLUX all-in-one panel PC enables easier access to the Internet through a GSM network, allowing web browsing, corporate and Internet email, vehicle



**Credit Card Service in the Vehicle**  
GSM networks allow for rapid connectivity to the Internet, sending data in short bursts on the move.



High connections to HSDPA-enabled cellular networks all over the world.



## B.Supermarket Use Advertising Player

Used as information machine or an advertisement display screen in supermarket, chain stores, drugstore, subway station, hotel, lift, boardroom, classroom and public areas or aboard various forms of transportation, like taxi, bus, train etc.



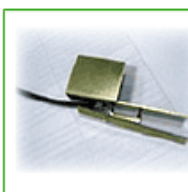
We Offer:

- High brightness TFT LCD screen for clear viewing
- Plastic cabinet streamline design with build-in speakers specifically design for public applications
- VIA CX700M platform supports hardware MPEG-2/MPEG-4 hardware decode acceleration, enabling faster multimedia file transmission and better image quality while the CPU is in less consumption.
- Selectable AT/ATX power mode
- Auto start when power on-AT mode
- Remote management-ATX mode
- Real time news update by wireless or wired LAN

## Enhanced Features:

### 1.High Speed WiFi (IEEE 802.11b/g) Networking

IEEE 802.11 is divided primarily into three sub-standards, viz. 802.11a, 802.11b, and 802.11g among others.



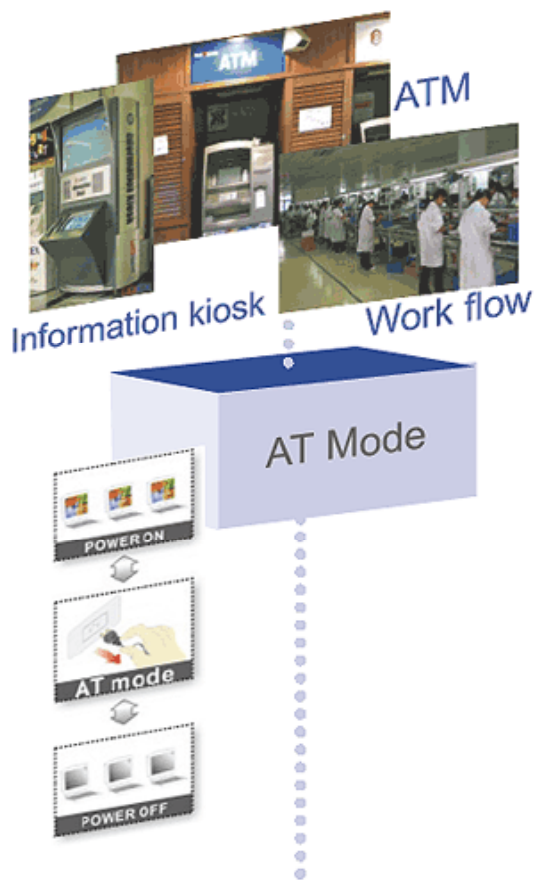
#### Hidden Antenna Inside

Integrated PIFA antenna on the AFOLUX ensures an uninterrupted wireless connection. PIFA (Planar Inverted F Antenna) type antenna can receive high-quality, uniform signals in any location from all directions without any signal degradation or impedance and are the most efficient antennas on the market today.

	802.11a	802.11b	802.11g
Data Rate (Mbps)	54	11	54
Range (Radius Indoor)	35 Meters	38 Meters	38 Meters
Range (Radius Outdoor)	120 Meters	140 Meters	140 Meters
Radio Frequency	5.15 GHz to 5.85 GHz	2.4 GHz to 2.5 GHz	2.4 GHz to 2.5 GHz

### 2.Selectable AT/ATX Power Mode

Flexible AT/ATX power mode easily selected by switch in front of the rear allows you to select the most suitable power mode for your unique requirements.



### Production Line

AT power mode allows multiple panel PCs automatically start when the central power unit is connected.



### General Ticketing Machine (GTM)

The ATX power mode allows the panel PCs to be turned on/off remotely via network.

## C.Factory Automation



We Offer:

- **Rugged Design** Ultra-rugged design survives the continuous shocks and jolts of a forklift. Engineered with a tough, IP 64 front panel dust and water rating.
- **WiFi 802.11 b/g** Wi-Fi, which gives you up to broadband-speed browsing and connectivity while moving, compared to traditional wired LAN. Without hinders worker movement lessens man-hour productivity.
- **Serial port for Data Transmission** We provide 2 independent RS-232 and RS-233/422/485 serial ports for connecting data acquisition equipment and many other serial devices .



**Enhanced Features:**

**1.Selectable RS-232/422/485 for Fast Data Transmission**

We provide 2 independent RS-232 and RS-232/422/485 serial ports for connecting data acquisition equipment and many other serial devices to AFOLUX PPC.

	RS-232	RS-422	RS-485
Mode of Operation	Single ended	Differential	Differential
Maximum Cable	50 Feet	4000 Feet	4000 Feet
Maximum Data Rate	20 kb/s	10 Mb/s-100 Kb/s	10 Mb/s-100 Kb/s

**2.Dual Gigabit Ethernet**

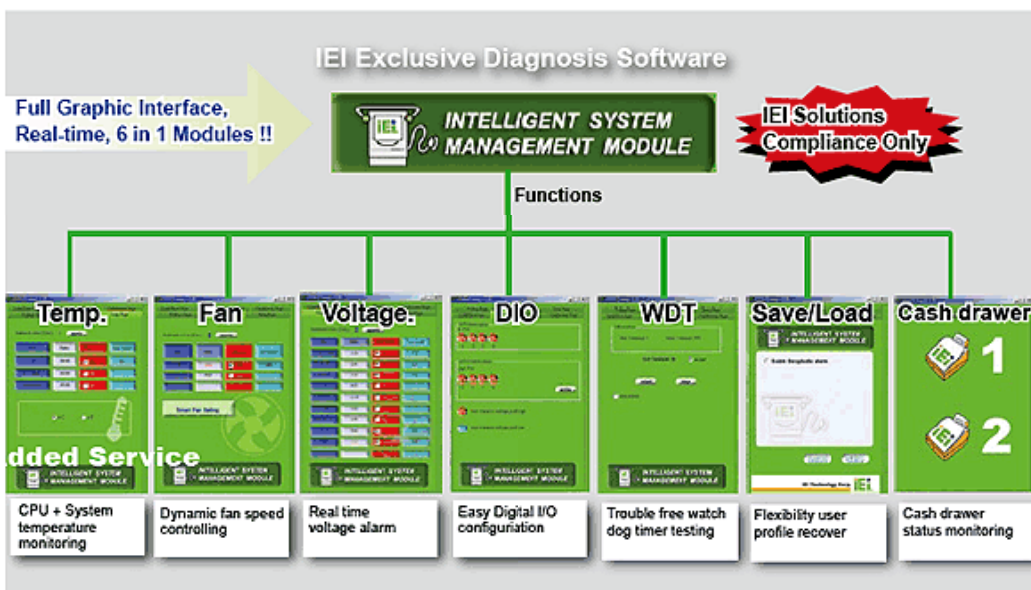
Two separate LAN ports that can be connected to separate LAN networks. Dual independent LAN to allocate factory zone and data storage zone to reduce the network collision and crash, or virus infection.

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**▶ Value Added Software**

**AI EI Intelligent System Management Module (ISMM) iSMM**

IEI iSMM is a system health supervision API which utilizes sensor chips on IEI motherboards to track system and CPU temperatures, voltages, cooling fan speed., WDT and Digital I/O set up status . By quickly capturing and reporting system health data, users can prevent disasters such as system instability or damage.



## Features

- External and on-chip voltages data feedback
- CPU and system temperature data feedback
- Cooling fan speed data feedback
- Cooling fan speed controlled by PWM/On-Off/ Automatic Mode
- Warning signals by beeper and sound effect
- WDT Test
- Programmable Digital I/O
- System health configurations save and load

## Public API Support

Hardware management has become so popular, particularly in self-service systems, that specialized APIs (application programming interfaces) have been created to ease the processes in all stages of hardware management generation. These APIs have also proved vital to system integrators, as they provide a way for programmers to access the hardware in an abstract way.

Example Code

```

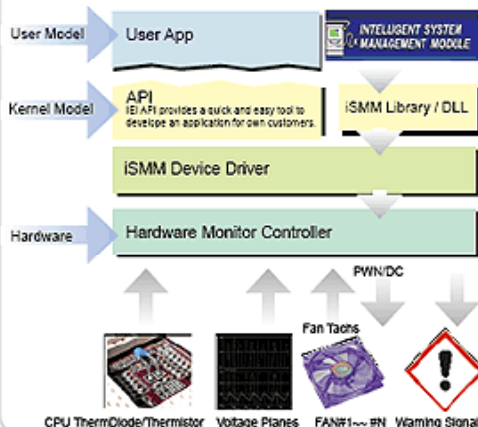
#include "stdafx.h"
#include "API.h"
#include "api.h"
#include "api.h"

int main()
{
    // Get CPU Temp
    int temp = GetCPUTemp();
    // Get Voltage
    int v = GetVoltage();
    // Get Fan Speed
    int f = GetFanSpeed();
    // Get WDT Status
    int w = GetWDTStatus();
    // Get I/O
    int i = GetIOStatus();
}
    
```

## Advantages

Know that your system is running within safe limits !!  
Prevent disasters such as system instability or damage.

## Architecture



## B Embedded OS Support

IEI provides optional pre-installed Windows® XP Embedded, Windows® CE 5.0 or Windows® Embedded CE 6.0 turnkey solutions tailored for the AFOLUX series. These turnkey solutions have one CompactFlash® memory card Windows® pre-installed. A Windows® software license is included, and one CD that contains all related SDK (Software Development Kit) information and user manuals.

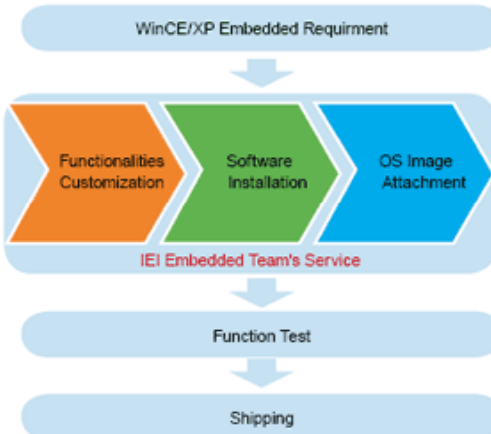
128 MB

- Include:
- Windows® CE OS Image with license
  - Thin Client turnkey solutions
  - SDK

1 GB

- Include:
- Windows® XPE OS Image with license
  - Thin Client turnkey solutions

Microsoft Windows CE 5.0 Windows Embedded CE 6.0



## C Watch Dog Timer

The AFOLUX panel PC includes a watchdog timer. The watchdog timer allows the system to automatically recover from a system crash. When the CPU stops working correctly, the watchdog timer waits for a preset period of time, and then performs a hardware reset (cold boot) or a Non-Maskable Interrupt (NMI) to bring the system back to a known state.



ATM



KIOSK

In most cases there is no user around to reset the computer when things go wrong. That job is performed by the watchdog timer.

## ▶ Industrial Grade Compliance

AFOLUX PPC can be installed into all kinds of work environments and applications. It can be wall mounted, panel mounted, or simply placed on a desktop with an optional stand based on different application needs. Compliant with IP 64 standards. This industrial-grade quality ensures this panel computer to withstand more severe environmental extremes, such as dusk, water, temperature and vibration.

### ▶ Wall Mount

Requires no cut out in the wall surface. It mounts directly on the existing wall or desk.



### ▶ Desktop Stand

Adjustable stand kit allow users to work in comfort, reducing neck and back strain from improperly positioned screens and easily movable to anywhere.



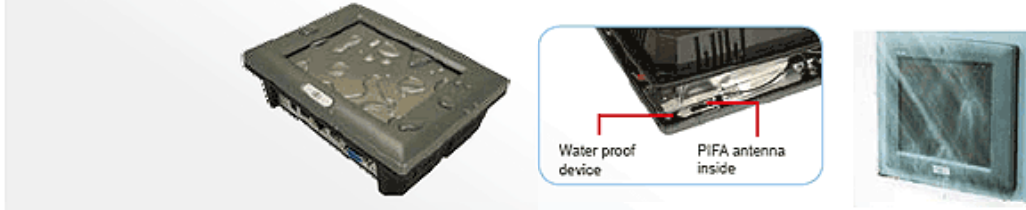
### ▶ Panel Mount

Requires a cut out in the wall surface. With four clamps to tighten the screws that pass through the panel mounting clamps



### ▶ IP 64 dustproof and waterproof front panel

The AFOLUX front panel is IP 64 compliant. IP 64 compliance guarantees the front panel is dustproof and water-proof. The AFOLUX front panel can withstand any industrial environment where dust and drizzle is encountered.



### ▶ Rugged design

The AFOLUX is directly mounted internally to a metal main frame rather than a fragile plastic cover. In addition, the AFOLUX case is made from ABS/PC (Acrylonitrile Butadiene Styrene/Polycarbonate Alloy ), which improves the stiffness over conventional material and makes the system more solid and durable.



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## ▶ Specifications

### VIA Eden™ Platform

▶ Model	AFL-07A-CX2	AFL-08AH-CX2	AFL-10A-CX2	AFL-12B-CX2
▶ LCD	7"	8.4"	10.4"	12.1"
▶ Max Resolution	800 x 480	800 x 600	800 x 600	1024 x 768
▶ Brightness	350	450	400	400
▶ Contrast Ratio	400: 1	500: 1	500: 1	500: 1
▶ LCD Color	262K	262K	262K	262K
▶ Pixel Pitch (mm)	0.1905(H) x 0.1905(V)	0.213(H) x 0.213(V)	211.2(H) x 158.4(V)	0.240(H) x 0.240(V)

Viewing Angle (H-V)	140/110	120/100	120/100	160/160
Backlight MTBF	50000 hrs	50000 hrs	50000 hrs	50000 hrs
CPU	VIA EDEN 1GHz ULV			
Chipset	CX700M			
RAM	Support one 200-pin 1GB (maximum) 400MHz or 533MHz DDR II SO-DIMM			
I/O Ports and Switches	1 x RS-232 COM Port 1 x RS-232/422/485 COM Port 1 x RJ-45 for Giga LAN 4 x USB 2.0 1 x Power Switch 1 x Reset Button 1 x Power Jack 1 x Audio Port 1 x External SATA			
SSD	CF Type II			
Watchdog Timer	Software programmable supports 1~255 sec. System reset			
Audio	AMP 1.5W + 1.5W			
Expansion	1 x Mini PCI ( Wireless LAN Module ) , 1 x Bluetooth Module (USB Interface, Bluetooth V2.0)			
HDD Drive Bay	N/A	N/A	N/A	
Optional HSDPA Module (support GSM 850,EGSM 900,DCS 1800 & PCS 1900)	N/A	N/A	YES	1 x 2.5" SATA HDD bay or Optional HSDPA Module
Construction Material	ABS + PC Plastic front frame			
LED Function	1 x Power ON/OFF LED on front panel			
Mounting	Panel, Wall, Rack, Stand or Arm VESA 75mm x 75mm			
Front Panel Color	Gray 7539U			
Dimensions (WxHxD) (mm)	226 x 140 x 41	234 x 184 x 42	276 x 227 x 50.7	304 x 246 x 56
Operation Temperature (°C)	0~45°C			
Storage Temperature (°C)	-20~60°C			
Net Weight	0.6 kg	0.8 kg	1.4 kg	1.8 kg
IP Level (front panel)	IP 64			
EMC	CE, FCC, CCC			
Safety	UL, CB			
Touch Screen	Resistive Type 4-Wire (touch controller IC is on board)		Resistive Type 5-Wire (touch controller IC is on board)	
Power Adapter	P/N: 63000-FSP0361AD101C-RS Power: 36W Input: 90VAC~264VAC @50/60Hz Output: 12VDC		P/N: 63000-FSP0481AD101C-RS Power: 48W Input: 90VAC~264VAC @ 50/60Hz Output: 12VDC	
Power Requirement	12VDC	12VDC	12VDC	12VDC
Power Consumption	30W	30W	36W	42W

Intel® Celeron® M Platform



Model	AFL-10A-9103	AFL-12B-9103
LCD	10.4"	12.1"
Max Resolution	800 x 600	1024 x 768
Brightness	400	400
Contrast Ratio	500:1	500:1
LCD Color	262K	262K
Pixel Pitch (mm)	211.2(H) x 158.4(V)	0.240(H) x 0.240(V)
Viewing Angle (H-V)	120/100	160/160
Backlight MTBF	50000 hrs	50000 hrs
CPU	Intel® Celeron® M 1.0GHz/512k Cache	
Chipset	Intel® 910GML E Chipset	
RAM	Support one 200-pin 2GB (maximum) 400MHz DDR II SO-DIMM	
I/O Ports and Switches	1 x RS-232 COM Port 1 x RS-232/422/485 COM Port 1 x RJ-45 for Giga LAN 4 x USB 2.0 1 x Power Switch 1 x Reset Button 1 x Power Jack 1 x Audio Port 1 x External SATA	
SSD	CF Type II	
Watchdog Timer	Software programmable supports 1~255 sec. System reset	
Audio	AMP 1.5W + 1.5W	
Expansion	1 x Mini PCI ( Wireless LAN Module ) , 1 x Bluetooth Module (USB Interface, Bluetooth V2.0)	
HDD Drive Bay	N/A	
Optional HSDPA Module (support GSM 850,EGSM 900,DCS 1800 & PCS 1900)	YES	1 x 2.5" SATA HDD bay or Optional HSDPA Module
Construction Material	ABS + PC Plastic front frame	
LED Function	1 x Power ON/OFF LED on front panel	
Mounting	Rack, Stand or Arm VESA 75mm x 75mm / 100 x 100mm	
Front Panel Color	Gray 7539U Gray	
Dimensions (WxHxD) (mm)	276 x 227 x 50.7	304 x 246 x 56
Operation Temperature (°C)	0~45°C	0~40°C with HDD (smart fan control: fan mode) 0~45°C with CF card or SATA interface 2.5" SSD HDD (smart fan control: fanless mode)
Storage Temperature (°C)	-20°C~60°C	
Net Weight	1.4 kg	1.8 kg
IP Level (front panel)	IP 64	
EMC	CE, FCC, CCC	
Safety	UL, CB	
Touch Screen	Resistive Type 5-Wire (touch controller IC is on board)	
	P/N: 63000-	P/N: 63000-FSP0601AD101C-RS

	FSP0481AD101C-RS Power: 48W Input: 90VAC~264VAC @50/60Hz Output: 12VDC	Power: 60W Input: 90VAC~264VAC @50/60Hz Output: 12VDC
❖ <b>Power Adapter</b>		
❖ <b>Power Requirement</b>	12VDC	12VDC
❖ <b>Power Consumption</b>	41W	46W

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## Ordering informations & Options

### VIA Eden™ Platform

<b>Part No.</b>	<b>Description</b>
AFL-07A-CX2-E10G/WT-R/512MB	7" 350cd/m <sup>2</sup> WVGA fanless panel PC with VIA Eden 1GHz ULV CPU, 512 MB DDR2 RAM, 802.11 b/g wireless module, touch screen, bluetooth, RoHS
AFL-08AH-CX2-E10G/WT-R/512MB	8.4" 450cd/m <sup>2</sup> SVGA fanless panel PC with VIA Eden 1GHz ULV CPU, 512 MB DDR2 RAM, 802.11 b/g wireless module, touch screen, bluetooth, RoHS
AFL-10A-CX2-E10G/WT-R/512MB/** (HSDPA01)	10.4" 400cd/m <sup>2</sup> SVGA fanless panel PC with VIA Eden 1GHz ULV CPU, 512 MB DDR2 RAM, 802.11 b/g wireless module, touch screen, bluetooth, RoHS
AFL-12B-CX2-E10G/WT-R/512MB/** (HSDPA01)	12.1" 450cd/m <sup>2</sup> XGA fanless panel PC with VIA Eden 1GHz ULV CPU, 512 MB DDR2 RAM, 802.11 b/g wireless module, touch screen, bluetooth, RoHS

### Intel® Celeron® M Platform

<b>Part No.</b>	<b>Description</b>
AFL-10A-9103-10G/WT-R/1GB/** (HSDPA01)	10.4" 400cd/m <sup>2</sup> SVGA fanless panel PC with Celeron® M 1.0GHz 512K cache CPU, 1GB DDR2 RAM, 802.11 b/g wireless module, touch screen, Bluetooth, RoHS
AFL-12B-9103-10G/WT-R/1GB/** (HSDPA01)	12.1" 450cd/m <sup>2</sup> XGA fanless panel PC with Celeron® M 1.0GHz 512K cache CPU, 1GB DDR2 RAM, 802.11 b/g wireless module, touch screen, Bluetooth, RoHS

Note: For 12.1" AOLUX PPC, if the HSDPA module is used, the HDD can't be implemented.

## Options

<b>Model</b>	<b>AFL-07A-CX2</b>	<b>AFL-08AH-CX2</b>	<b>AFL-10A-CX2</b> <b>AFL-10A-9103</b>	<b>AFL-12B-CX2</b> <b>AFL-12B-9103</b>
Panel Mounting Kit	AFLPK-08		AFLPK-12	
Wall Mounting Kit	AFLWK-12			
Rack Mounting Kit	AFLRK-07	AFLRK-08	AFLRK-10	AFLRK-12
ARM	ARM-11-RS / ARM-31-RS			
STAND	STAND-A08/STAND-100-RS/STAND-150-RS		STAND-A12/STAND-100-RS/STAND-150-RS	
DC to DC converter module	IDD-930160-KIT			
Hybrid Card Reader	AFLP-08AMSI-U		AFLP-10AMSI-U	AFLP-12BMSI-U
Magnetic Stripe Reader	AFLP-08AMSR-U		AFLP-10AMSR-U	AFLP-12BMSR-U
DC 12V Input UPS	AUPS-A10-R10			

DC 9-36V Input UPS

AUPS-A20-R10

	Win CE 5.0	AFLCF-07-CX2-CE	AFLCF-08-CX2-CE	AFLCF-10-CX2-CE AFLCF-10-9103-CE	AFLCF-12-CX2-CE AFLCF-12-9103-CE
OS	Win CE 6.0	AFLCF-07-CX2-CE060	AFLCF08-CX2-CE060	AFLCF10-CX2-CE060 AFLCF10-9103-CE060	AFLCF12-CX2-CE060 AFLCF12-9103-CE060
	Win XPE	AFLCF-07-CX2-XPE	AFLCF-08-CX2-XPE	AFLCF-10-CX2-XPE AFLCF-10-9103-XPE	AFLCF-12-CX2-XPE AFLCF-12-9103-XPE

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