

UPC-12A 12.1" Aluminum UPS Panel PC with Smart Battery Backup

Rugged Aluminum Die-casting Body!

UPC-12A, a revolutionary model featuring smart battery technology, which allows users to monitor and manage battery's status directly through IEI unique user interface. The UPC-12A boasts a 12.1-inch XGA LCD screen with sunlight-readable 1000 nits options. The UPC-12A series equipped with battery pack provides emergency power when the main power source is not available, eliminating the risk of main power shutdown suddenly, permitting extremely flexible integration into a wide variety of applications:

Features:

- 12.1" all-in-one PPC with touch technology
- 1000 nits sunlight readable panel available
- Powerful all-in-one panel PC
 - Intel® GM45 chipset and 45nm mobile Core™2 Duo processor support
 - An onboard ULV Intel® Celeron® M 1GHz plus 512K with Intel® 910GML chip support
- Battery backup power protects your productivity from the constant threat of power outages and lost data
- Ambient light sensor detects ambient light for automated screen adjustments to optimize viewing. (0%~100% brightness control for sunlight readable version)
- 802.11 b/g/n Wi-Fi support
- PCI expansion slot for adding more capacity (Optional PCI express expansion interface)
- Standard VESA 75/100 mounting
- Robust die-casting aluminum chassis
- IP 65 compliant aluminum compliant front panel



Waterproof USB Cover



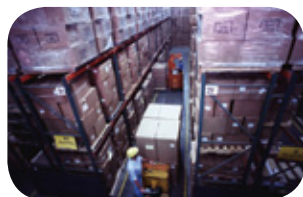
Smart battery backup provides emergency power (14.8V, 3800 mAh)

UPS Panel PC Applications

- Provides power for certain period of time after a power fail has occurred.
- Continue to provide stable power to equipment during line sags & spikes.
- Absorb power surges & transients.
- Smooth out noisy power sources.

A. Mobile System Solution

Providing backup power for the data sensitive part of movable equipment, allowing charging and battery replacement of the primary power without shutting down the data terminal.



B. Power Bank Solution

Acts as power input regulator to prevent unstable power input damage and avoid protect against unexpected power loss.



C. Other Relative Applications

Production Line



Blue Screen



With UPS Protection

The IEI Smart Battery is immediately enabled when power failed, and provides stable power so the operator can save important system parameter.



Without UPS Protection

System shuts down or hangs-up suddenly and all data is lost because no backup power is available.

Smart Battery Backup

Protect your productivity from power outages and data lost

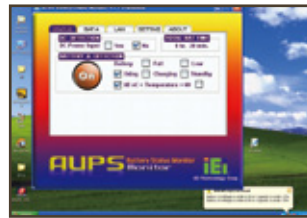
1. Rechargeable Battery



The UPC series is equipped with rechargeable "smart battery" which can supply voltage to systems up to 60 minutes without any external power supply.

Platform	Smart Battery Run-time
Intel®910GMLE	40~60 mins
Intel®GM45	40 mins

2. Battery Monitoring Utility



- Battery detection
- Battery capacity status
- Battery charge
- DC Input Indicator
- Battery Indicator
- Temperature warning
- Low battery alarm
- Connection port status



3. Temporary Mobile System



UPC Battery Mode

BATT / UPS

AT / ATX

Under the battery mode, the UPC system can boot by power switch while the UPS battery supplies the main power to the unit as a temporary mobile system.

Protection

Automatic self-test	Battery self-test ensures early detection of a battery that needs to be replaced.
Back Up Power	An Back-UPS instantly switches your computer to emergency battery backup power and allows you to work through brief power outages

Convenience

Audible Alarms	Proactively notifies you of changing battery under 10% capacity.
Automatic self-test	User friendly graphical interface.

Manageability

Software	This ensures real time monitoring and networking remote management Network based power management Internet ready monitoring
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Manageability

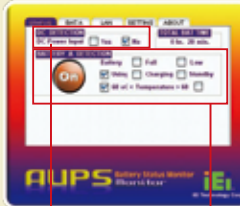
LAN CONFIGURATION

- LAN shows system IP address information



AUPS STATUS

- STATUS shows DC / battery power input detection



DC Input detection

Battery status detection

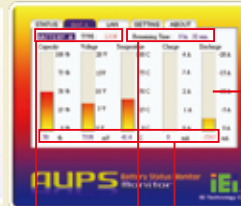
ABOUT

- Shows AUPS utility information



BATTERY STATUS

- BAT.A shows battery status real time monitoring



Battery type

Battery usage remaining time

Real time information updating

Battery capacity bar

SETTING

- SETTING shows connection detection port



Auto-scan connection port

System shuts down condition by battery capacity setting

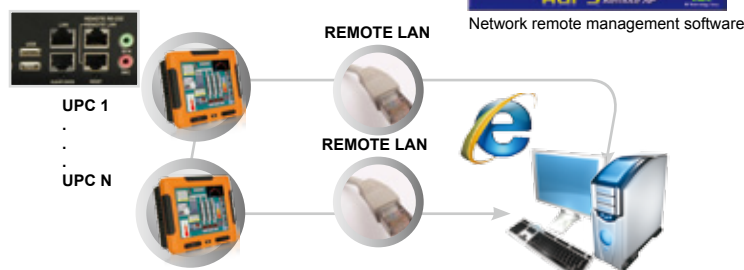
Auto Shutdown

Network Based Power Management and Monitoring

The UPC series carries with smart battery software utility and application program for user to monitor the battery real time status and remotely control system power on/off from anywhere and anytime through network. Remote management software allows users to use static IP or DHCP for remote management.

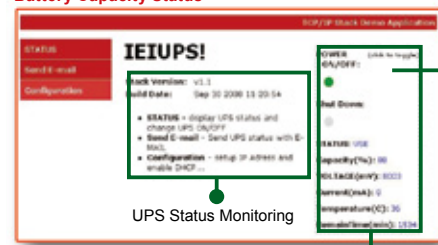
Multiple Systems Power Control

The remote management software utility and application program allows users to easily get the status of the UPC and to control the UPC power functions from anywhere with an internet connection.



UPC Network Remote Management

Battery Capacity Status



Power On/OFF

UPS Status Monitoring

Email Status Report



Remote control DC output ON/OFF via web interface.

Powerful Computing

The powerful UPC-12A are designed for embedded performance grade applications. Featuring the Intel® GM45/910GML chipsets, the UPC-12A provides total compatibility in a wide variety of high performance and low power industrial control applications.

■ Intel® GM45

The UPC-xxA series integrated with the 45nm next generation Intel® Core™2 Duo processor family (Penryn) which extends leadership in performance and energy efficiency for low power embedded applications.

Performance Leadership

- Penryn on 45nm process
- Large L2 Cache and Faster FSB (6M, 1066MHz)

Increased Integration

- Support for High Definition Decoder in H/W

Format	Decoding Stage	GME965	GM45
MPEG2 (DVD)	HW Motion Comp	✓	✓
	Inverse DC Transform	✓	✓
	Variable Length Decode	✓	✓
VC-1 (WMV9)	HW Motion Comp + In Loop	✓	✓
	Deblocking	✓	✓
	Inverse Transform	✓	✓
AVC (H.264) (HD DVD)	Variable Length Decode	✓	✓
	HW Motion Comp + In Loop	✓	✓
	Deblocking	✓	✓
	Inverse Transform	✓	✓
	Variable Length Decode	✓	✓

For performance-oriented users, socket type allows customers to easily upgrade processors from Celeron® M 2.0GHz to Core™2 Extreme 2.53GHz.

Package Type	Brand Name	Code Name	CPU No.	Clock Speed	FSB (MHz)	L2	TDP	Chipset	
Socket P	45nm	Core™2 Extreme		QX9300	2.53G	1066	12M	45W	GM45
				X9100	3.06G		6M	44W	
		Core™2 Quad		Q9100	2.26G		12M	45W	
				Q9000	2.0G		6M	45W	
		Core™2 Duo		T9900 (PGA/BGA)	3.06G		6M	35W	
				T9800 (PGA/BGA)	2.93G		6M	35W	
				T9600 (PGA/BGA)	2.8G		6M	35W	
				T9550 (PGA/BGA)	2.66G		6M	35W	
				T9400 (PGA/BGA)	2.53G		6M	35W	
				P9600 (PGA/BGA)	2.66G		6M	25W	
				P9500	2.53G		6M	25W	
				P8800 (PGA/BGA)	2.66G		3M	25W	
				P8700 (PGA/BGA)	2.53G		3M	25W	
				P8600 (PGA/BGA)	2.4G		3M	25W	
	P8400 (PGA/BGA)	2.26G	3M	25W					
Core™2 Extreme		X9000	2.8G	800	6M	44W			
	Penryn (Santa Rosa Reflash)	T9500 (PGA/BGA)	2.6G		6M	35W			
		T9300 (PGA/BGA)	2.5G		6M	35W			
		T8300 (PGA/BGA)	2.4G		3M	35W			
		T8100 (PGA/BGA)	2.1G		3M	35W			
	Core™2 Duo	Meron (Santa Rosa)	T7500 (PGA/BGA)		2.2G	4M	35W		
Meron (Montevina)		575	2.0G	667	1M	31W			
65nm	Celeron®								



Military

Military Application:

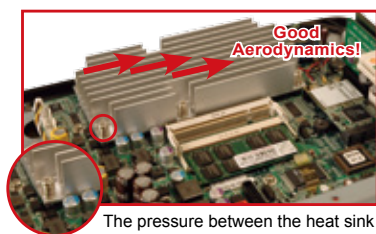
- Powerful PC with super high brightness LCD Screens for demanding military applications
- Touch screen capability
- Integrated Intel® Core 2™ Duo CPU with high performance graphics speeds up to 533 MHz improve graphics and 3D rendering performance, enable high-definition video playback, for graphic intensive applications (i.e. mapping, simulation)

■ Intel® 910GML



Intel® Celeron® M 1GHz plus 512K cache with Intel® 910GML chipset

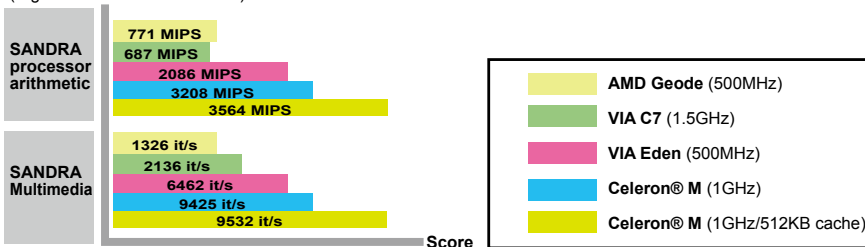
Offers the best combination of high performance computing features with the lowest power dissipation, ideal for industrial automation applications.



The pressure between the heat sink and the heat source must be high for easily flow for good thermal transfer.

Comparison of CPU Performance Benchmark-SANDRA

(Higher index values are better)



Selectable AT/ATX Power Mode



Convenient External Switch in the Rear



System On



System Off

• AT Power Mode

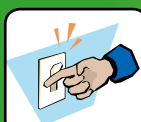
The AT power option allows multiple systems to be powered on directly by turning on the power supply. A room of computers can be controlled by a central power switch, so all systems are turned on and off by a central switch. This power mode is best suited for multiple computers where constant connectivity is not necessary, as the computers cannot be accessed or turned on remotely.

UPC switch settings

BATT / UPS **AT / ATX**

Benefits:

- Automatic start when power connected



System On



System Off

• ATX Power Mode

The ATX power option allows systems to be powered on and off remotely over a network. Systems must be plugged in all the time, but they can be turned on from a "soft-off" using software that sends the appropriate signal over the network connections. Individual PCs can be turned on at the same time. The always-on ability allows complete remote administration, reducing technician visits to only when there are hardware issues.

UPC switch settings

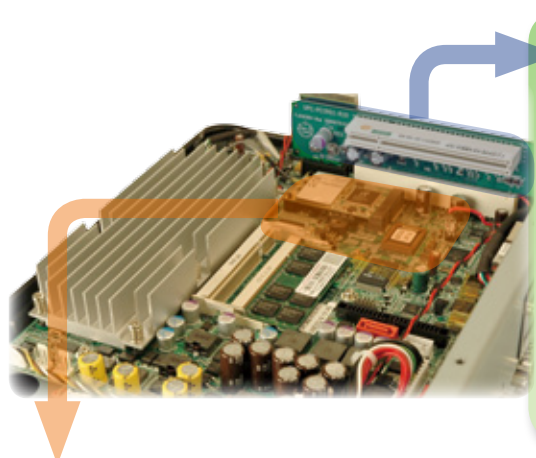
BATT / UPS **AT / ATX**

Benefits:

- Power Management: Turn the system to standby mode to save power when the PPC is not used.
- Remote Control: The standby function on the ATX mode power supply allows the PPC to be turned on/off remotely via network.

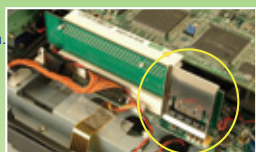
Flexible Expansion Interface

UPC series provide many expansion interfaces including one standard 32-bit PCI slot for various PCI add-on card, and one PCIe Mini card socket for a small form factor extender such as wireless module.

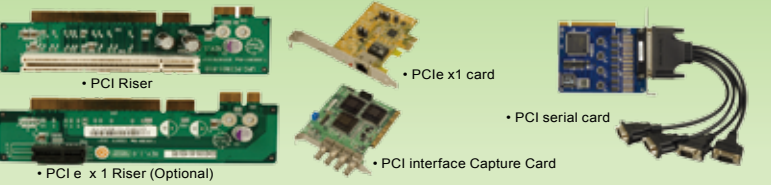


1. PCI/Optional PCIe x1 Expansion Slot

Anti-vibration Riser
Tightly secured riser card design.







- PCI Riser
- PCIe x1 card
- PCI serial card
- PCI e x1 Riser (Optional)
- PCI interface Capture Card

2. PCIe Mini slot for 802.11b/g/n wireless module

The UPC series featuring high speed WiFi IEEE 802.11 n protocol which builds on previous 802.11 standards by adding multiple-input multiple-output (MIMO) and 40 MHz operation to the physical (PHY) layer. MIMO uses multiple transmitter and receiver antennas to improve the system performance. The 40 MHz operation uses wider bands, compared to 20 MHz bands in previous 802.11 operation, to support higher data rates. Wider bandwidth channels are cost effective and easily accomplished with moderate increases in digital signal processing.



27 times faster data transfer rate compared to 802.11b

Protocol	Freq.	Thru.	Data	Range indoor	Range outdoor
802.11	(GHz)	(Mbit/s)	(Mbit/s)	(m)	(m)
a	5 GHz	23	54 Mbit/s	~35	~120
b	2.4 GHz	4.3	11 Mbit/s	~38	~140
g	2.4 GHz	19	54 Mbit/s	~38	~140
n	5 GHz and/or 2.4 GHz	74	300 Mbit/s (2 streams)	~70	~250



The UPC System Features

- Invisible antenna delivers 802.11n wireless network connectivity
- Wireless IEEE 802.11 b/g/n module with PCI Express Mini-Card interface

Sunlight Readable



• 1000 nits Super High Brightness

The UPC-12AH series has greatly improved luminance through edge lighting to achieve super high brightness

• Low Reflection through AR (Anti-Reflection) Technology

Outdoor applications in daylight or other bright environments require technology that can suppress surface reflection. The UPC-12AH sunlight readable model offers special AR (anti-reflection) surface treatment to prevent reflection, which ensures excellent visibility in daylight conditions.

Super high brightness: 1000 nits
High contrast: 700:1
Wide viewing angel: 60/60 (R/L) 45/75 (U/D)

Ambient Light Sensor



Ambient Light Sensor provides Comfortable Viewing and Power Saving

Auto-detects the amount of light in the viewing environment and auto-adjusts the brightness of the screen.

- Avoid eye strained and tired, to provide comfortable viewing
- Power consumption saving
- Extend lamp lifetime
- Extends backlight life

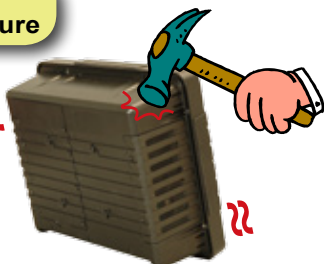
Note: Fully Dimmable Controls (for UPC-xxAH model)

F. Rugged Design

The UPC series ultra-rugged design survives the continuous shocks and jolts of a forklift. Engineered with a tough, anti-vibration and IP65 front panel dust and water rating.

Robust Die-Cast Aluminum Enclosure

A rugged die-cast aluminum enclosure helps the need for using a fan as a heat dissipation device to minimize the troublesome overheating problem.



Rigorous Shock/Vibration Test



Compliant with MIL-STD-810F shock and vibration protection, as well as offering IP65 water and dust proof front panel protection.



HDD install with Anti-shock buffer rubber enhances protection performance.

Dismantleable Fan Module for Easy Maintenance



Applications

1. Lift Truck PPC

Lift truck mounted with UPC-12A, just as with barcode scanners, enable real-time data collection which allows operators to accomplish traditional warehouse tasks – faster – thus reducing labor costs.



We Offer:

- 9~28V DC Input for Mobile Application.
- WiFi 802.11 b/g/n
802.11b/g Wi-Fi, which gives you up to broadband-speed browsing and connectivity while moving, compared to traditional wired LAN. Without hinders worker movement and lessens man-hour productivity.



2. Power Bank

We Offer:

- Redundant Power Protection
As the redundant power supply, in the event of the main power source failing or running out, the UPC unit is able to power the load to provide greater reliability.
- Wide Range 9V~28VDC Input
The UPC series provides wide range +9~+28VDC power input for regulator function to prevent unstable power input damage, also avoid unexpectedly power lost.
- Rechargeable temporary battery pack
- Providing up to 60 minutes uninterrupted operation time for external battery change or relocation data back up.
- Reduce Risk of Losing Valuable Data as Continuous System Operation
- VESA Compliance Easy to Employ

Fully I/O and User Friendly Interface



• LED Indicator

(Power LED/HDD Status/Charging/Discharging/Light Sensor)



• Membrane Keypad Control

LCD On/Off; Brightness Up/Down; Volume Up/Down; Auto Dimming On/Off; Battery Low Beeper (under 10% battery capacity beeper on/off)

• Waterproof front USB

Designed for industrial use, UPC waterproof front USB cover is based around the standard USB interface, with USB Ver.2 performance offering data transfer up to 480Mbps.



1 9~28VDC Input

2 Power Switch

3 DC 12V Power Jack

4 3 x RS-232 COM, 1 x RS-232/422/485 COM

5 User-accessible CF

6 4 x USB2.0

7 1 x PCI Expansion Slot

(Optional PCIe x1 expansion)

8 2 x RJ-45 Giga LAN

9 Remote RS-232, Remote LAN

10 Clear CMOS

11 Reset

12 Line-out

13 Mic-in

14 AT Mode UPS Switch

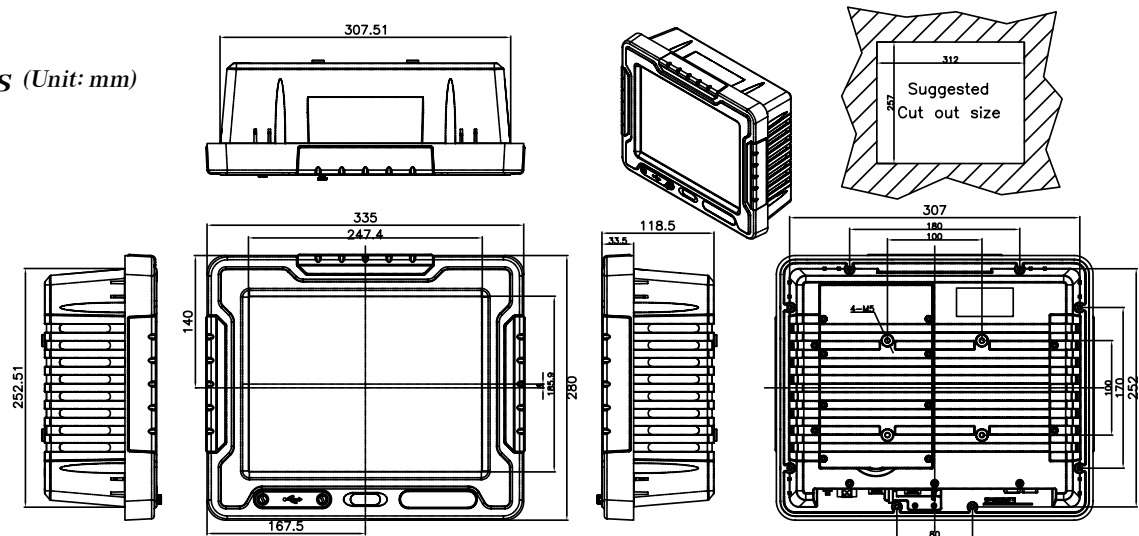
15 VGA Output

Specifications

Model		12.1" Regular Brightness		12.1" Sunlight Readable	
		UPC-12A/910	UPC-12A/GM45	UPC-12AH/910	UPC-12AH/GM45
Display	LCD Size	12.1"		12.1"	
	Max Resolution	1024 x 768		1024 x 768	
	Brightness (cd/m²)	450		1000	
	Contrast Ratio	700:1		500:1	
	LCD Color	262k		262k	
	Pixel Pitch (mm)	0.240(H) x 0.240(V)		0.240(H) x 0.240(V)	
	Viewing Angle (H-V)	150° / 150°		120° / 120°	
Motherboard	Backlight MTBF	50000hrs		50000hrs	
	CPU	Intel® Celeron® M processor 1.0GHz with 512KBL2 Cache	Intel® Core™2 Duo P8400 2.26GHz Intel® Celeron® M 575 2.0GHz Intel® Core™2 Duo T9400 2.53GHz	Intel® Celeron® M processor 1.0GHz with 512KBL2 Cache	Intel® Core™2 Duo P8400 2.26GHz Intel® Celeron® M 575 2.0GHz Intel® Core™2 Duo T9400 2.53GHz
	Chipset	Intel® 910GMLE + ICH6M	Intel® GM45 Chipset + ICH9M	Intel® 910GMLE + ICH6M	Intel® GM45 Chipset + ICH9M
	RAM	two DDR2 SO-DIMM Up to 4GB			
I/O		3 x RS-232 COM 1 x RS-232/422/485 COM 2 x RJ-45 Giga LAN 6 x USB 2.0 (2 waterproof USBs in front of the panel) 1 x VGA 1 x Power Switch 2 x Audio Jack (Line-out, Mic-in) 1 x Reset Button		1 x COMS Clear Button 1 x 9~28VDC Power Jack 1 x Power Mode Switch (Battery or DC input) 1 x 9~28VDC Power Input Terminal Block 1 x Networking UPS Management Port by RJ-45 Ethernet 1 x Remote COM port by RJ-45 connector 1 x AT Mode UPS Switch (2 pin terminal block)	
	Expansion	1 x PCI, 1 x PCIe x1 (Optional), 1 x PCIe mini (Wireless LAN Module)			
LED Indicator		Power LED / HDD Status / Charging / Discharging / Light Sensor			
Membrane Keypad		LCD On/Off; Brightness Up/Down; Volume Up/Down; Auto Dimming On/Off; Battery Low Beeper (under 10% batter capacity beeper on/off)			
Drive Bay	SSD	CF Type II			
	HDD	1 x 2.5" SATA HDD bay			
Battery	Capacity	14.8V, 3800 mAh			
	UPS run-time	60 mins	40 mins	50 mins	40 mins
			50 mins		30 mins
			40 mins		40 mins
Physical	Construction Material	Aluminum Die-casting			
	Mounting	VESA 100 mm x100 mm			
	Front Panel Color	Orange (Pantone 151C)			
	Dimensions (WxHxD) (mm)	335 x 280 x 119			
Environment	Operation Temperature (°C)	-10°C~55°C			
	Storage Temperature (°C)	-20°C~70°C			
	Net/Gross Weight	5.8 Kg / 6.9 Kg			
	IP Level	IP65 Compliant front panel			
	Safety & EMC	CE / FCC / CCC / CB			
Touch Screen		Resistive Type 5-Wire (Touch controller IC is on board)			
Power Requirement		9~28VDC			
Power Consumption		56W	63W	64W	73W
	60W		70W		
	65W		74W		

*note: Battery normal operating temperature 0°C~45°C

UPC-12A Dimensions (Unit: mm)

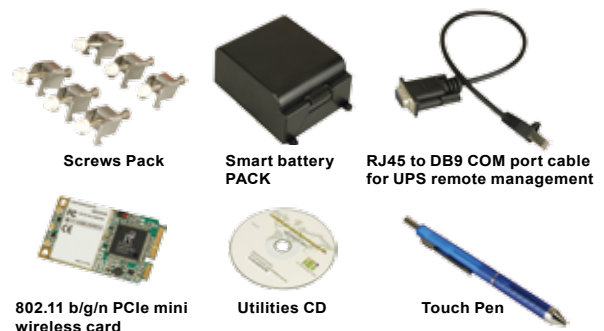


Options

Model	UPC-12A-910	UPC-12A-GM45	UPC-12AH-GM45
Panel mounting kit		UPCPK-12	
Wall mounting kit		AFLWK-19	
Rack mounting kit		UPCRK-12	
ARM		ARM-11-RS / ARM-31-RS	
Stand		STAND-A19 / STAND-B19 / STAND-210-R11	
OS: Win CE 6.0	UPCCF-12-910-CE060-R10	N/A	N/A
OS: Win XPE	UPCCF-12-910-XPE-R10	UPCCF-12-GM45-XPE-R10	UPCCF-12-GM45-XPE-R10
Battery Pack		BAT-LI-4S2P3800A (14.8V, 3800mAH)	
PCIe x 1 Riser Card		034D335-00-100-RS	

Packing List

Item	Part No.	Q'ty	Specification
Screws Pack	44003-050501-RS	4	M5; 5mm
RJ45 to DB9 COM port cable	32000-089201-RS	1	
Power Adapter	63000-FSP096AHB-RS	1	90~264V AC; 12V DC; 96W
Power Cord	32000-000002-RS	1	1750mm; European Standard
Utilities CD	7B000-000087-RS	1	
Touch Pen	XTR104-0002-RS	1	-
WiFi 802.11 b/g/n PCIe mini card	7F900-Q802XKN-RS		
Smart battery pack	BAT-LI-4S2P3800A		Lithium ion Battery 4S2P, 3800mAh, FOR UPC Series



Note: Suggest to connect DC input constantly. Battery will be drained after 14 hours.

Ordering Information

Part No.	Description
450 nits	UPC-12A/910-CM373/WT-R/1GB-R10 12.1" 450 cd/m² XGA panel PC with Intel® Celeron® M 1.0GHz/512KB CPU, 100W UPS with 14.8V, 3800mAh, 1GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
	UPC-12A/GM45-CM575/WT-R/1GB-R10 12.1" 450cd/m² XGA panel PC with Intel® Celeron® M 575 2GHz CPU , 100W UPS with 14.8V, 3800mAh, 1GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
	UPC-12A/GM45-P8400/WT-R/2GB-R10 12.1" 450cd/m² XGA panel PC with Intel® Core™2 Duo P8400 2.26GHz CPU, 100W UPS with 14.8V, 3800mAh, 2GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
	UPC-12A/GM45-T9400/WT-R/2GB-R10 12.1" 450cd/m² XGA panel PC with Intel® Core™2 Duo T9400 2.53GHz CPU, 100W UPS with 14.8V, 3800mAh, 2GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
1000 nits	UPC-12AH/910-CM373/WT-R/1GB-R10 12.1" 1000 cd/m² XGA panel PC with Intel® Celeron® M 1.0GHz/512KB CPU, 100W UPS with 14.8V, 3800mAh, 1GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
	UPC-12AH/GM45-CM575/WT-R/1GB-R10 12.1" 1000 cd/m² XGA panel PC with Intel® Celeron® M 575 2GHz CPU , 100W UPS with 14.8V, 3800mAh, 1GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
	UPC-12AH/GM45-P8400/WT-R/2GB-R10 12.1" 1000 cd/m² XGA panel PC with Intel® Core™2 Duo P8400 2.26GHz CPU, 100W UPS with 14.8V, 3800mAh, 2GB DDR2 RAM and touch screen, 802.11 b/g/n wireless
	UPC-12AH/GM45-T9400/WT-R/2GB-R10 12.1" 1000 cd/m² XGA panel PC with Intel® Core™2 Duo T7500 2.2GHz CPU, 100W UPS with 14.8V, 3800mAh, 2GB DDR2 RAM and touch screen, 802.11 b/g/n wireless