AFOLUX RFID PPC Series

EM / MIFARE Compliance !

ACT-08A

8.4" SVGA Intelligent Access Control Terminal

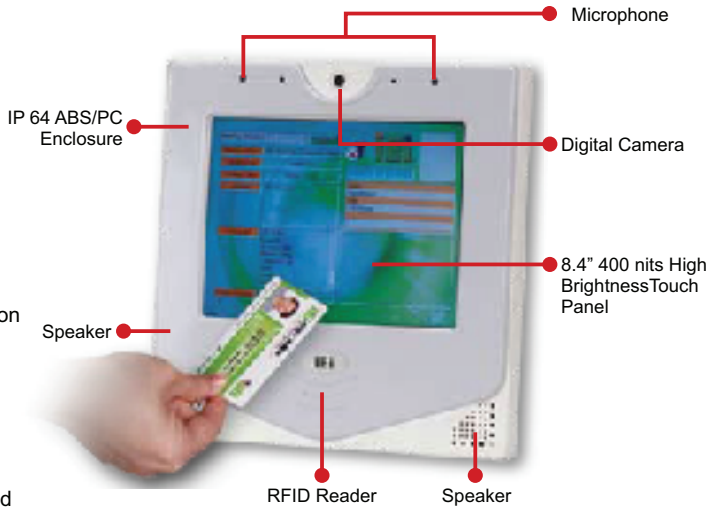
- Fanless
- All-in-One Intelligent System
- Rugged Design

New Extreme Low Power ACT-08A-N270 Series

All-in-One Access Control Terminal

The advanced, easy-to-use ACT-08A fanless touch-screen panel PC all-in-one control terminal reads both MIFARE and EM tags and transponders. The fanless ACT-08A panel PCs are built on low-power, low-heat x86 Intel® 910GMLE, VIA CX700M chipsets or Intel® 945GSE chipsets. The x86 ACT-08A panel PC are more flexible than the traditional RISC-based control terminals. The x86 architecture enables system developers to integrate sophisticated time attendance, access control and/or prepaid card software on the ACT-08A for implementation in the following areas:

- Door Access
- Time Attendance
- Cashless payment for vehicle, ticket, membership club, photocopying, dining, laundry…etc.
- Parking Access control



• All-in-One Ready to Run

The x86 ACT-08A all-in-one panel PC with Windows CE and Windows XPE operating systems is easily integrated with data intensive applications including voice recognition, face recognition etc. The ACT-08A with an 8.4" touch panel is a complete turnkey solution that comes with an RFID reader digital camera, microphone, two speakers, built-in Wi-Fi and Bluetooth module.

• Fanless

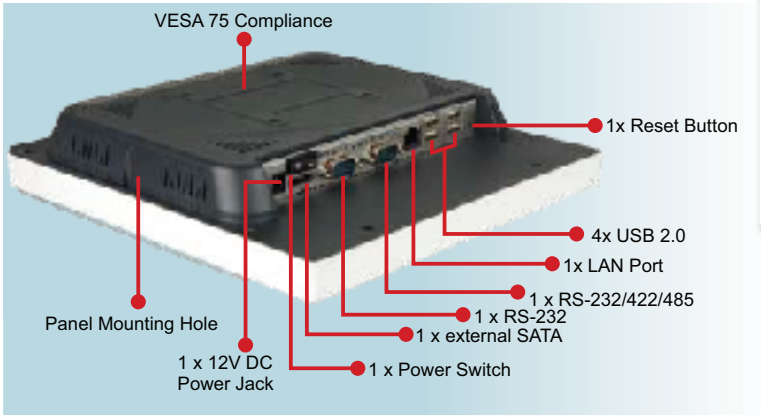
The fanless ACT-08A systems have less downtime and extended operational lives as they are not susceptible to overheating problems caused by fan failures.

• Rugged Design

The rugged ACT-08A systems combine IP 64 compliant front panels with anti-shock and anti-vibration shields to ensure the system is secured against vandalism and protected against extreme environmental conditions.

Features

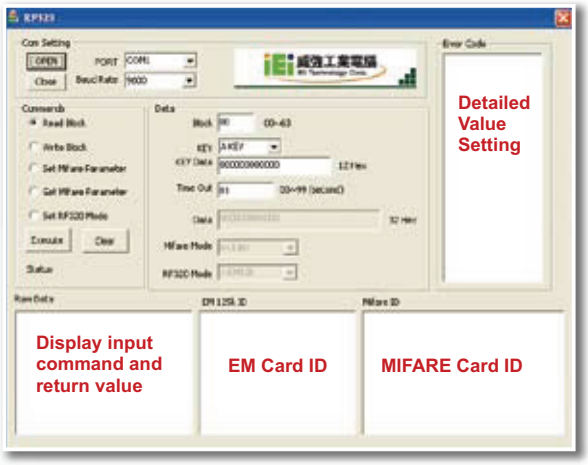
- 8.4" TFT-LCD with Resistive Touch Screen
  8.4" SVGA (800x 600) 400 nits high brightness LCD monitor with robust 4-wire resistive touch screen emables the most convenient access and control
- Fanless 1.0 GHz Intel® Celeron® M processor with 512 KB L2 cache/ 1.0 GHz ULV VIA Eden/ Intel® Atom™ N270 1.6GHz processor
- Integrated RFID Reader in front of the Panel
  For MIFARE 13.56 MHz or EM 125 KHz RFID tag
- 300K pixel Camera up to VGA resolution (640 x 480) (Optional 1.3MP Camera with Digital Microphone Module)
- Built-in microphone
- Wireless Connection 802.11 b/g wireless LAN Module (internal PCIe mini card interface)
- One CF Type II Slot
- Mounting Panel, Wall, Stand and Arm mounting Compliance (VESA 75 mm x 75 mm)



Programmable RFID Support

IEI provides the specific information about how to configure RFID software utilities:

- Read from the MIFARE Card
- Write into the MIFARE Card
- Set Parameter of the MIFARE Card Reader
- Read Parameter of the MIFARE Card Reader
- Set detect type of Card Reader

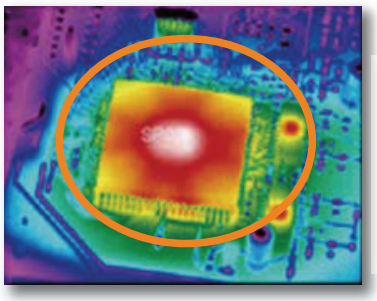


Complete Solutions for You

A. ACT-08A-9103

► 8.4" SVGA High Performance Access Control Terminal

Embedded High Computing Performance
The slim Intel® 910GMLE powered ACT-08A-9103 is a high-performance, low-power information access control terminal. The ACT-08A-9103 is ideal for processing-intensive applications that require superior computing performance.



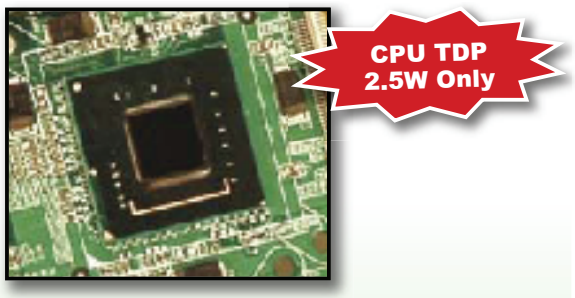
With low power consumption benefit, BGA type enhances thermal performance and system stabilities significantly.

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

B. ACT-08A-N270

► Extremely Low Power Consumption

The 45 nm Intel® Atom™ processor N270 has a 1.60 GHz clock speed and a 533 MHz FSB with a 512 KB L2 cache. The Intel® Atom™ is interfaced through the 533 MHz FSB to an Intel® 945GSE graphics memory controller hub (GMCH) which is in turn interfaced through a high-speed direct media interface (DMI) to an Intel® Mobil ICH7-M I/O controller hub (ICH).



Processor	Intel® Atom™ N270 1.6G
Chipset	Intel® 945GSE / ICH7M
Memory	Supports one 2GB (maximum) 400MHz or 533MHz DDR2 SO-DIMM

Expand Your Opportunities with RFID

The latest RFID identification reader enables the ACT-08A to be integrated into applications with sophisticated automated identification requirements.

• Diagram of ACT-08A with RFID

The RFID chip communicates with the reader through RFID induction technology . These tags require close proximity to an antenna to complete a transaction. They are often used when transactions must be processed quickly or hands-free.

ACT-08A RFID Reader

Transponder (RF tag)

Compatible with EM and MIFARE!

Built-in RFID Module

RFID tags come in a wide variety of shapes and sizes: Plastic/paper Card, Key Fobs, ABS/ PVC Tag, clear tag..etc, assist to expand more applications.

The RFID tag reader is fully protected in a very low-profile enclosure in the front of the ACT-08A to identify objects using radio-frequency communication techniques and easily for sensor the common smart cards: MIFARE/EM card.

RFID Card Categories

	MIFARE Card	EM Card
Effective Sensing Distance	5cm (max)	10cm (max)
Frequency Band	13.56 MHz	125 KHz
Applications	MIFARE Card with 1.0 kByte of memory ideal for more secure applications such as parking, vending and employer cards or as a stored value card.	Ideal for storage id information etc. Student identification, electronic passport, vending, parking and tolls are common applications for contact-less cards.

• Advantages

- **Non-contact**
- **Non-line-of-sight nature of the technology**

• RFID systems are distinguished by frequency ranges

RFID Category	Frequency band	Benefits	Drawbacks
LF	< 135 MHz	Works well around water and metal	• Short read range • Slower read rate
HF	13.56 MHz	Low cost	Higher read rate than LF
UHF	860 MHz to 930 MHz	EPC standard built around this frequency	Does not work with items of high water or metal content

* Operating range depends on reader power and operating environment

Multi-Device Application Possibilities

• Identification

The ACT-08A integrates the RFID reader in the front panel making the ACT-08A ideal for digital identification applications.

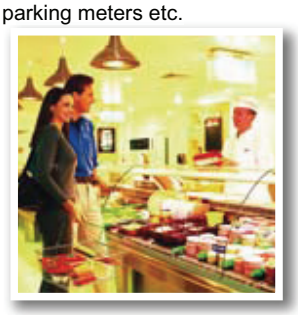
Library RFID Management Systems

Membership Management

Student Attendance Monitoring

• Commercial Transactions

The ACT-08A all-in-one access control terminal is easily integrated into automated payment systems integrated at self-service gas stations, in vending machines or at cashier terminals in stores. The ACT-08A also facilitates pre-paying household utilities, paying parking meters etc.



Digital signage and payment systems

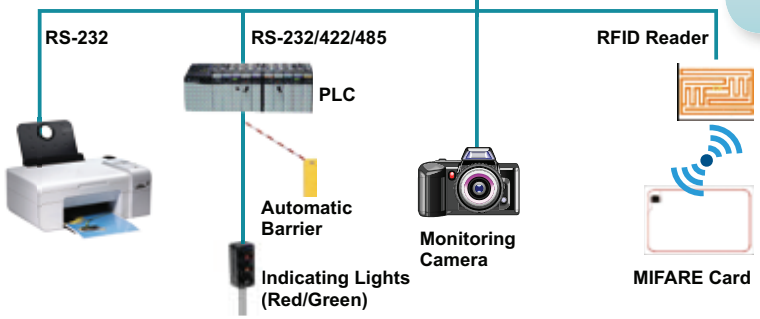
Transportation Payment System

Vending Machines

Parking Lot Entrance Control

• RFID Automated Parking Control System

The RFID controller unit enables the ACT-08A to be implemented in automatic toll collection systems to ensure parking fees are paid. The ACT-08A can be used to access and control a database and monitor the toll collection transaction history.



We Offer

- **Serial port for Data Transmission**
  Two independent RS-232 and RS-233/422/485 serial ports provide connections to data acquisition equipment and many other serial devices.

	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

- **Bluetooth Wireless Connectivity**
  Bluetooth module integrated into the ACT-08A all-in-one panel access control terminal transmits information between peripheral devices through a complete Bluetooth network.

Access Control Door System

The two-in-one EM/MIFARE compliant RFID reader installed in the ACT-08A x86 based panel PC supports sophisticated security applications. Advanced third-party voice and face recognition software can be integrated with the embedded camera and microphone to enable the development of complete security systems to protect restricted environments in banks, government buildings and other sensitive areas.

- **Face Recognition**
  The digital camera captures the image of a person's face and compares facial contours and other facial features with those stored in a database in a few seconds.

- **Voice Recognition**
  The microphone captures the voice of a person and compares the signature frequencies with those stored in a database.
- **High quality hands-free speakerphone**
  Talk with visitors while they wait outside.

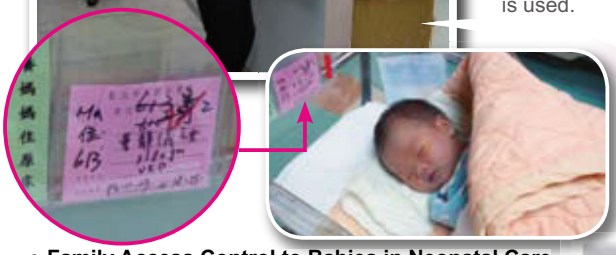
We Offer

- **x86 architecture that is easy for system integrator application development**
- **Bluetooth Connectivity**
  Bluetooth infrastructure eliminates the use of wires or line-of sight.

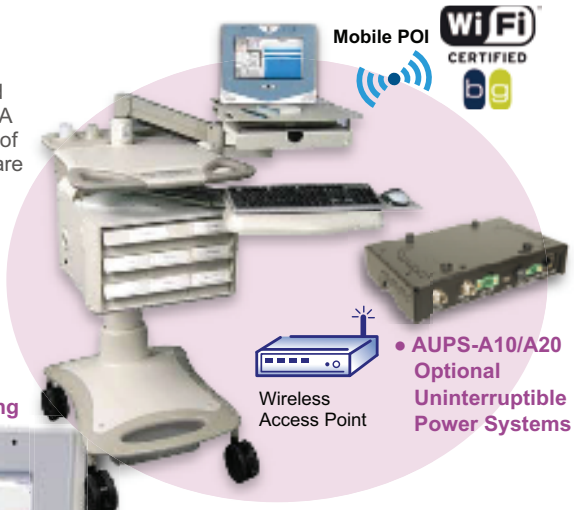
Healthcare Solutions

The ACT-08A with Radio Frequency Identification (RFID) technology applied in hospitals and healthcare facilities can identify and track patients, objects, and assets, and can speed up or eliminates many manual operations in checking and processing patients.

- **Medication Tracking System**
  Monitoring the entire flow of medication use, from shipment to administration, helps prevent medical mistakes.
- **Asset Tracking**
  Attaching an RFID tag to each piece of equipment and strategically locating ACT-08A readers throughout the area of operations where the hardware is used.



- **Family Access Control to Babies in Neonatal Care**
  After authorization, families have the ability to view details about their babies on the ACT-08A outside the baby care room.



Wristband (with space to insert small paper card tag)

We Offer

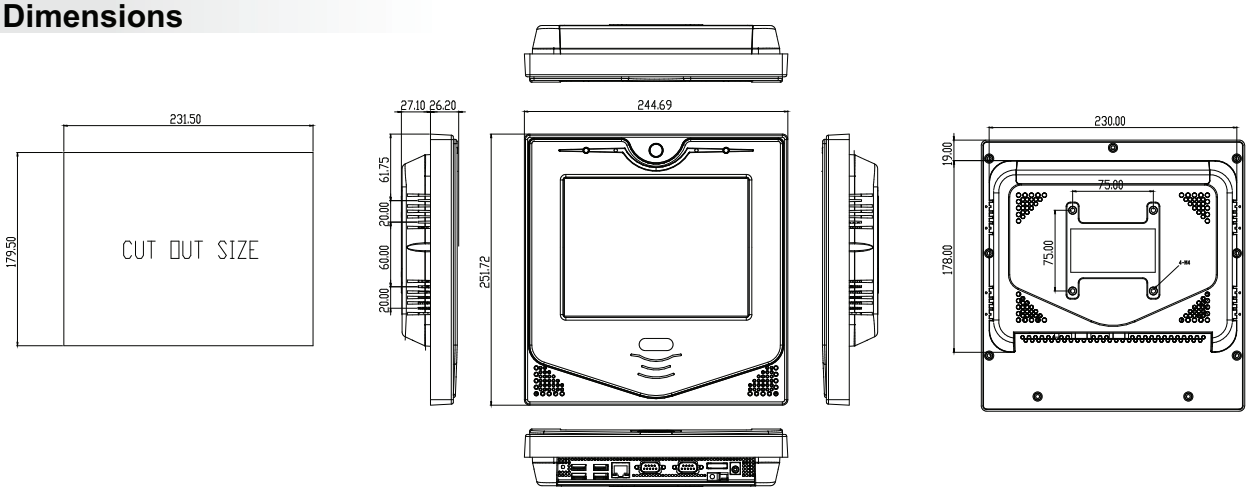
- **Compact Fanless System**
- **Optional Uninterruptible Power System**
  Protecting your ACT-08A from damage in medical environments is critically important. Uninterruptible power supplies reduces the risk of losing valuable data when power failures occur.

Ordering Information

Part No.	Description
ACT-08A-N270/WT-R/1GB-R10	8.4" 400cd/m² SVGA fanless panel PC with Intel® Atom™ N270 1.6GHz CPU, 1GB DDR2 RAM, 802.11 b/g wireless module, MIFARE & EM RFID module, touch screen, RoHS
ACT-08A-CX2-E10G/WT-R/512MB	8.4" 400cd/m² SVGA fanless panel PC with VIA Eden 1GHz ULV CPU, 512MB DDR2 RAM, 802.11 b/g wireless module, MIFARE & EM RFID module, touch screen, RoHS
ACT-08A-9103-10G/WT-R/1GB	8.4" 400cd/m² SVGA fanless panel PC with Celeron M 1GHz 512KB cache CPU, 1GB DDR2 RAM, 802.11 b/g wireless module, MIFARE & EM RFID module, touch screen, RoHS

Note: Optional 1.3MP Camera with Digital Microphone Module

Dimensions



Specifications

Model	ACT-08A-9103	ACT-08A-CX2	ACT-08A-N270
LCD Size	8.4"		
Max Resolution	800 x 600		
Brightness (cd/m²)	400		
Contrast Ratio	500 : 1		
LCD Color	262K		
Pixel Pitch (mm)	0.213(H) x 0.213(V)		
Viewing Angle (H-V)	120º/100º		
Backlight MTBF	50000hrs		
SBC Model	AFLMB-9103-R10	AFLMB-CX2-R10	AFLMB-N270-R10
CPU	Intel® Celeron® M processor (1.0GHz) with 512KBL2 Cache	VIA EDEN 1GHz ULV	Intel® Atom™ N270 (1.6GHz)
Chipset	Intel® 910GMLE	CX700M	Intel® 945GSE + ICH7M
RAM	One DDRII SO-DIMM Up to 2GB	One DDR II SO-DIMM up to 1GB	One DDRII SO-DIMM Up to 2GB
I/O Ports	1 x RS232 COM Port 1 x RS232 or 422/485 COM Port 1 x Giga LAN 4 x USB 2.0 1 x external SATA 1 x Power Switch 1 x Reset Button 1 x Power Jack		1 x RS232 COM Port 1 x RS232 or 422/485 COM Port 2 x Giga LAN 2 x USB 2.0 1 x Power Switch 1 x Reset Button 1 x Power Jack
SSD	CF Type II		
Audio	AMP 1.5W + AMP 1.5W (Internal speaker)		
Extension	1 x Wireless Lan Module (802.11 b/g) (internal PCIe mini card interface)	1 x Wireless Lan Module (802.11 b / g) (internal Mini PCI interface)	1 x Wireless Lan Module (802.11 b/g) (internal PCIe mini card interface)
HDD Drive Bay	N/A		
CD-ROM Drive Bay	N/A		
Camera	300K pixel Camera + Digital Microphone (USB interface)		
RFID	MIFARE (13.56MHz) & EM (125KHz) RFID Reader		
Construction Front Panel	ABS + PC Plastic front frame		
Contruction Chassis	Aluminum Chassis		
Power Adapter	60W Power Adapter	48W Power Adapter	48W Power Adapter
LED Function	1 x LED on Front Panel for Power ON/OFF		
Mounting	Panel, Wall, Stand and Arm mounting (VESA 75 x 75mm)		
Color	Blue and White		
Dimension (WxHxD) (mm)	251.72 mm x 244.69 mm x 53.3 mm		
Operation Temperature (ºC)	0ºC ~ 45ºC	0ºC ~ 45ºC	-10ºC ~ 50ºC
N/G Weight	1.1 kg		
IP Level	IP64		
Safety & EMI	CE / FCC / CB / CCC		
Power Consumption	48W	38W	35W

Options

		ACT-08A-CX2	ACT-08A-9103	ACT-08A-N270
Panel Mounting Kit		AFLPK-08		
Wall Mounting Kit		AFLWK-12		
ARM		ARM-11-RS / ARM-31-RS		
STAND		STAND-B08 / STAND-100-RS / STAND-150-RS		
OS	Win XPE	ACTCF-08-CX2-XPE	ACTCF-08-9103-XPE	ACTCF-08-N270-XPE-R10
OS	Win CE6.0	ACTCF-08-CX2-CE060	ACTCF-08-9103-CE060	ACTCF-08-N270-CE060-R10

Note: Win CE application without digital microphone function