

# AFOLUX GEN II

AFL2-W15A-N270 Intel® Atom™ Solution  
 AFL2-W15A-L325 AMD 780E Solution

## 15.6" Wide Modular Expansion Panel PC

IEI designed a completely new modular architecture for its new AFOLUX GEN II Panel PCs. A variety of expansion module boards connecting through a common interface give it functional versatility. The AFOLUX GEN II services diverse applications and is especially suited for self-service and interactive environments.

**Expansion Module**



### Features

- **Modular All-in-One System**

Wide 15.6" all-in-one system is designed around its modularization architecture. Easy to expand and upgradeable functions through added modules increases system scalability and versatility.

- **Extraordinary Outlook**

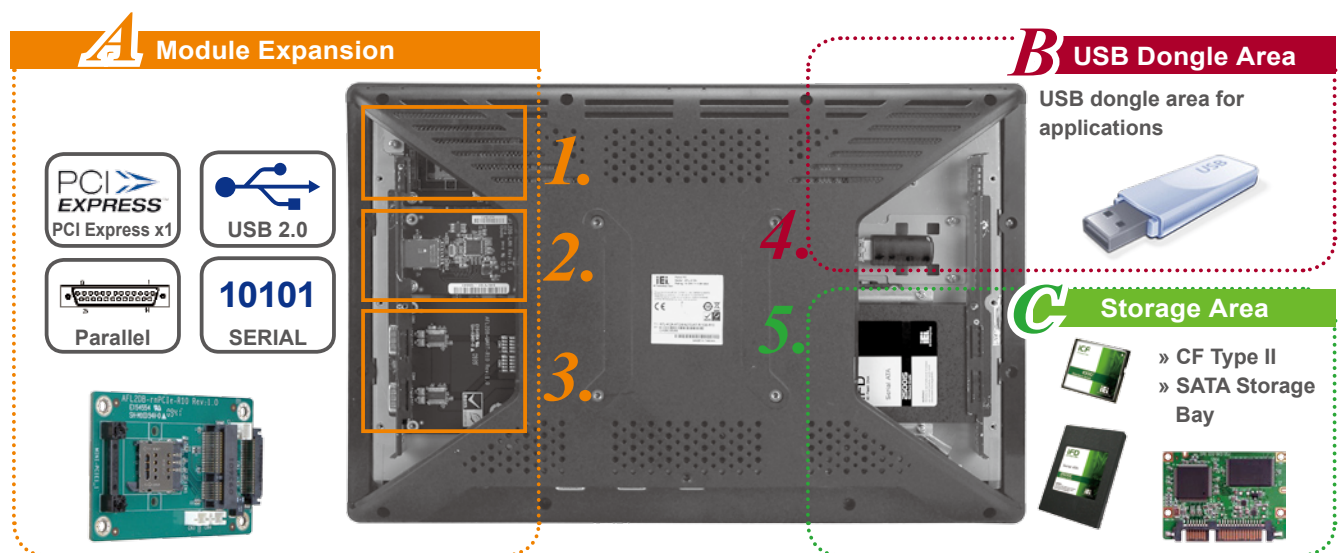
Sleek flat-bezel design makes the screen stylish and easy to clean. Slim body with only a 5 cm depth ensures the system is perfect for any public environment.

- **Reliable Design**

IP64 compliant front panel protection resists water and dust invasion. Function modules based on board-to-board design ensuring system reliability for delivery and transportation applications.

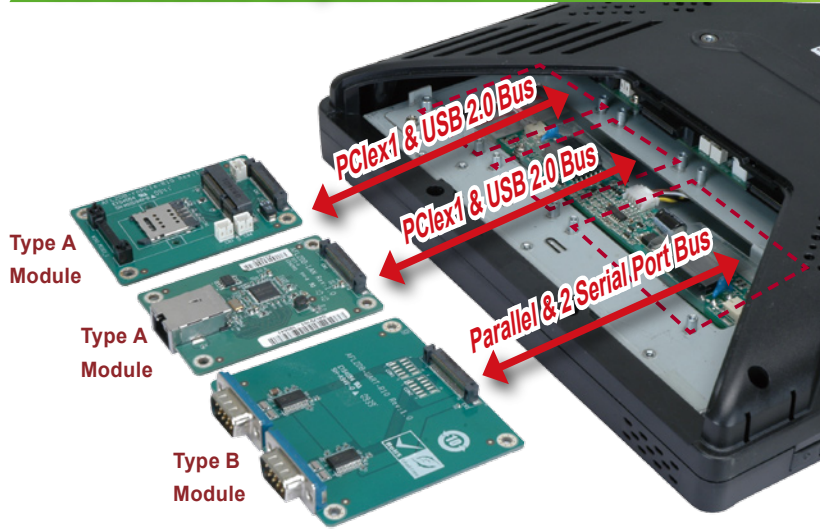
## 5-in-1 Rich Expansion

The guiding principle behind the AFOLUX GEN II is the ability to add expansion modules to the system mainboard facilitating simple expansion for system storage, PCI Express, parallel, serial and USB interface functions.



## A. Module Expansion

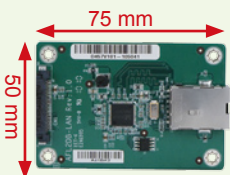
### Rear Left Side View



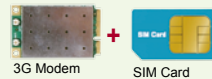
1. Easy to install function modules
  2. Small form factor function modules save warehouse space
  3. Faster distribution to your customers
  4. Customizable I/O bracket to fit different module board connectors
- Semi-off holes for one LAN port and two COM ports

## Optional Modules

### Type A Module



- **AFL2DB-MPCIE-R10**  
PCIe Mini Card Carrying Module



- **AFL2DB-LAN-R10**  
Giga Ethernet Module



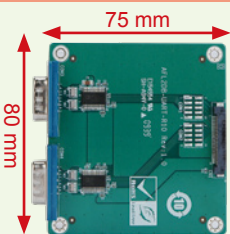
- **AFL2DB-USB3-R10**  
USB 3.0 Module



- **AFL2DB-CPT4-R10**  
4-Channel Video Capture Module



### Type B Module



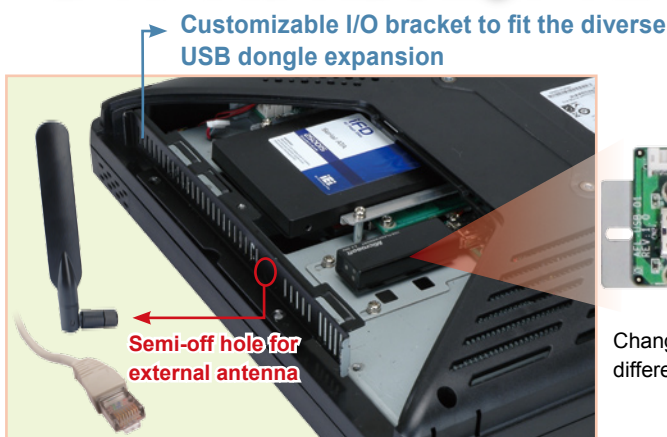
- **AFL2DB-UART-R10**  
Serial Extension Module



| Function                     | Interface      | IEI Module Board                            | Type |
|------------------------------|----------------|---|------|
| HSUPA 3.5G connection        | PCIe Mini card | AFL2DB-MPCIE-R10 + Optional 3.5G modem card | A    |
| DVBT/ATSC or hybrid TV tuner | PCIe Mini card | AFL2DB-MPCIE-R10 + Optional TV tuner card   | A    |
| Ethernet                     | PCIe x1        | AFL2DB-LAN-R10                              | A    |
| USB 3.0                      | PCIe x1        | AFL2DB-USB3-R10                             | A    |
| Video capture card (4 port)  | PCIe x1        | AFL2DB-CPT4-R10                             | A    |
| Serial port                  | 2 x Serial     | AFL2DB-UART-R10                             | B    |

## B. Universal USB Dongle Area

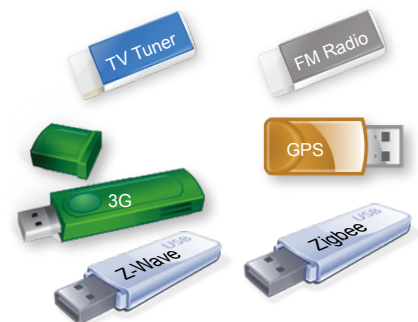
### Rear Right Side View



Reserved internal USB slot allows fast deployment of diverse USB dongles.



Changeable bracket to support different sizes of USB dongles

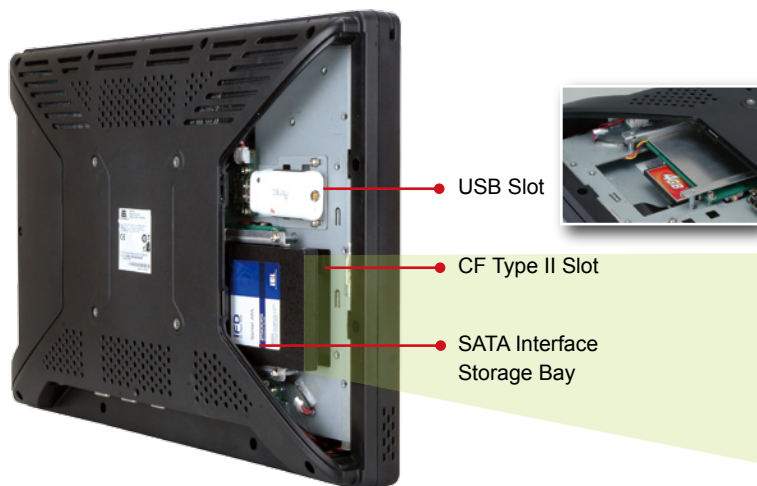


**AFL2-W15A-N270**

\* AFL2-W15A-L325 without USB dongle area

## C. Storage Area

## Rear Right Side View



### Reliable Anti-Vibration SSD



#### 2.5" SATA SSD

- Vibration: 20 G (7~2000 MHz)
- Shock: 1500 G / 0.5 ms



#### SATA SSD Module

- Capacity 8 GB ~ 32 GB
- Data Transfer Rate Up to 90 / 30 MB
- Power Supply: 5 V
- Power Consumption: <250 / 150 mA

## Diverse Performance Options

### • Reliable Fanless System-Intel® Atom™ Platform *Fanless*

High performance Intel® Atom™ CPU with low power consumption runs fast and stable for long-term usage.

### • Graphic Performance System-AMD 780E Platform

- Built-in MPEG2/H.264/AVC Full HD Decoder
- HDMI delivers the High Image Quality on the Second Display

The AFL-W15A-780E series has a high definition HDMI second display port. HDMI (High-Definition Multimedia Interface) is a compact audio/video interface for transmitting uncompressed digital data. It delivers high-definition video support at 1080p resolution which equals 1,920x1,080 pixels. It also supports industry standard EIA-861B video modes including 480p, 720p, 1080i, and 1080p.

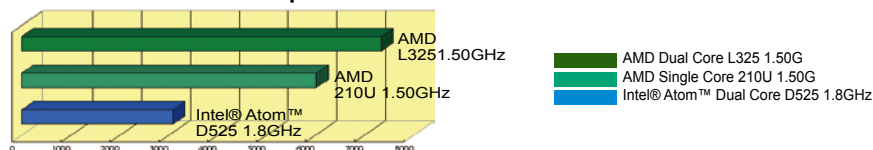


About 50 feet



| Performance  | CPU   | Memory | 3D - Passmark Performance Test | 3D - 3DMark 2006 v1.1.0 | 3DMark 2001 SE |
|--|-------|--------|--------------------------------|-------------------------|----------------|
| Intel® 945GSE Atom N270 1.60GHz / 533MHz 512K/L2 Cache | 254.2 | 228.1  | 83.7                           | 109                     | 2783           |
| Intel® Atom D525 1.8GHz 1MB/L2 Cache                   | 725.5 | 244.7  | 123.4                          | 121                     | 3089           |
| AMD Sempron Processor 210U 1.50GHz (On board)          | 311.6 | 265.3  | 87.2                           | 723                     | 6020           |
| AMD Athlon Neo X2 Dual Core L325 1.50GHz (On board)    | 613.9 | 235.2  | 92.1                           | 882                     | 7347           |

### 3DMark Performance comparison



## Seamless Flat-Bezel Design

The AFOLUX GEN II adopts a flat glass bezel with projected capacitive or resistive touchscreen.

- Sleek and stylish design
- Perfect edge design prevents dust and water accumulation
- Easy to clean

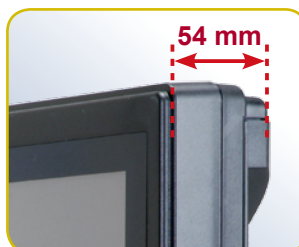


Sleek & stylish

▲ Advanced Flat-Bezel Design

## Slim Body Optimizes Space Utilization

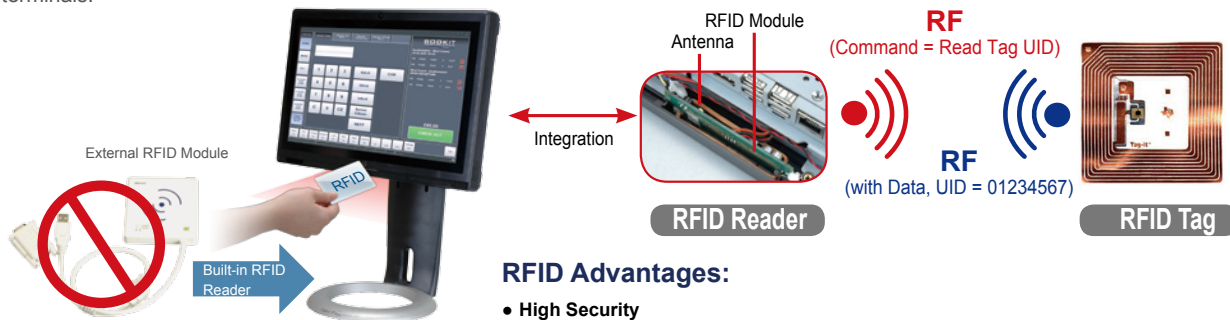
The AFOLUX GEN II packs a lot of features into an ultraslim design. Measuring at just over 54 mm and only 3.8 kg, its slim body and rich expansion capabilities are designed to fit your self-service applications.



Slim Body

## Integrated EM / Mifare RFID Reader

The integrated RFID reader in the AFOLUX GEN II system allows for great efficiency, while the Mifare reader has read/write capabilities to update tag data in the field. Together these functions make the AFOLUX GEN II the most advanced interactive asset tracking and identification terminals.



### RFID Specifications:

- Frequency: 125KHz or 13.56 MHz
- Reading distance: 5~7 cm
- Supports ISO 14443A Mifare® or EM standard

### RFID Advantages:

- **High Security**  
Each RFID tag contains an integrated chip with a unique permanent identification (UID) number burned-in during the manufacturing process to make counterfeiting difficult.
- **High Efficiency**  
Multiple tags can be read in parallel; no line of sight reading
- **High Durability**  
Less subject to environmental damage

## Diverse Wireless Connectivity

### • 802.11-b/g/n Wireless LAN

Integrated PIFA antenna on the AFOLUX GEN II ensures an uninterrupted wireless connection and provides up to IEEE 802.11n wide bandwidth operation. Frees cables and clutter from your workspace.



- Invisible antenna
- The data transfer rate of the IEEE 802.11n is 27 times than the 802.11b

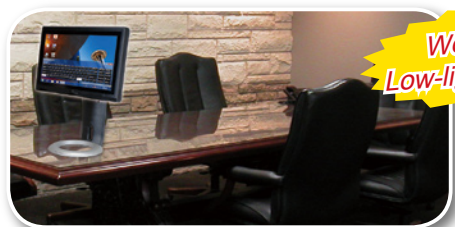


### • Bluetooth V2.1+EDR

Preinstalled bluetooth module communicates with a wide range of electronic devices from PDAs and cellphones to barcode readers. Good transmission performance, greater than 20 m in free space.

## Video Intercom Device Ready

Ready for VoIP, door intercom, video conferencing and digital signage applications.



- VGA resolution image sensor
- Video resolution: 1280x1024, 640x480, 352x288, 320x240, 176x144, 160x120.
- Frame rate: 640x480 @ 30fps max.
- Storage format of image: AVI
- Storage format of photograph: BMP, JPEG



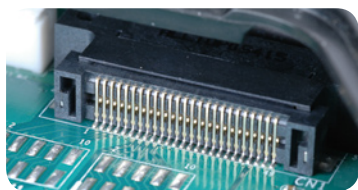
# IEI Expansion System Concept

## Features:

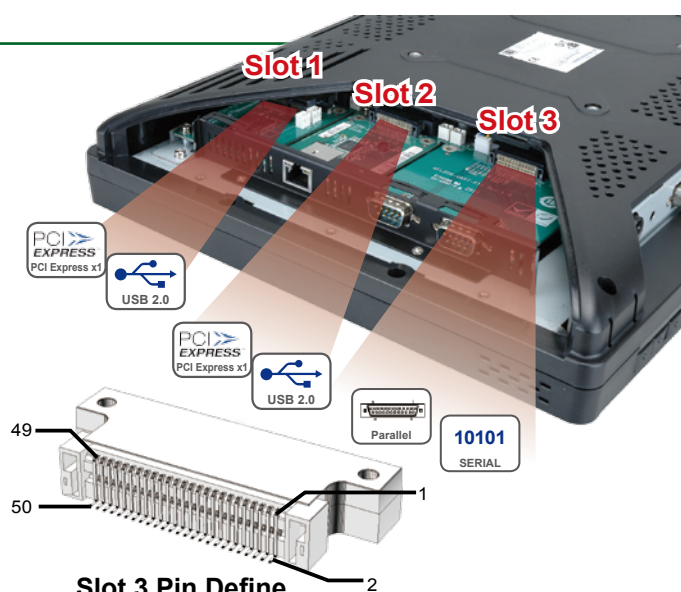
- Reliable board to board connection
- IEI's self-defined module interface reduces synchronization between function and system

## Standard Connector Type Easy to Design Expansion Module

The AFOLUX GEN II motherboard utilizes a three 50-pin card-edge connector to connect the expansion module.



Connector Type: JAE KX15-50KLD\* or equivalent



## Slot 1 and 2 Pins Define

Table 1: PCIe x 1 and USB Interface Signals

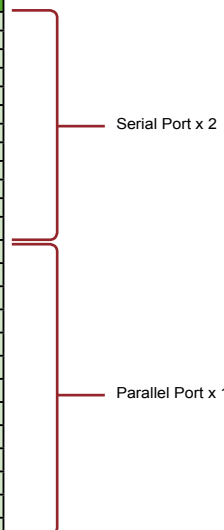
| Pin | Signal               | Pin | Signal         |
|-----|----------------------|-----|----------------|
| 1   | GND                  | 2   | GND            |
| 3   | PETP1                | 4   | PERP1          |
| 5   | PETN1                | 6   | PERN1          |
| 7   | GND                  | 8   | GND            |
| 9   | SMBCLK               | 10  | CLK_PCIE_LAN2  |
| 11  | SMBDATA              | 12  | CLK_PCIE_LAN2# |
| 13  | GND                  | 14  | GND            |
| 15  | PCIE_WAKE#           | 16  | PCIRST#1       |
| 17  | GND                  | 18  | GND            |
| 19  | GND                  | 20  | USBD+          |
| 21  | GND                  | 22  | USBD-          |
| 23  | GND                  | 24  | GND            |
| 25  | GND                  | 26  | GND            |
| 27  | +1.5V_PCI            | 28  | GND            |
| 29  | +1.5V_PCI            | 30  | VCC3_PCI       |
| 31  | +1.5V_PCI            | 32  | GND            |
| 33  | GND                  | 34  | VCC3_PCI       |
| 35  | GND                  | 36  | GND            |
| 37  | VCC3                 | 38  | VCC3_PCI       |
| 39  | VCC3                 | 40  | GND            |
| 41  | GND                  | 42  | GND            |
| 43  | GND                  | 44  | VCC5_PCI       |
| 45  | GND                  | 46  | VCC5_PCI       |
| 47  | VCC12_PCI (Reserved) | 48  | GND            |
| 49  | VCC12_PCI (Reserved) | 50  | GND            |

\*pin 27, 29, 31: +1.5v -> max 2.1A  
 \*pin 30, 32, 38 : +3.3v -> max 2.1A  
 \*pin 44, 46 : +5v -> max 1.4A  
 \*pin 37, 39: +3.3v dual -> max 1.4A  
 \*pin 20, 22: not supported on slot 2  
 of AFL2-W15A-L325

## Slot 3 Pin Define

Table 2: Parallel and Serial Port Interface Signals

| Pin | Signal | Pin | Signal |
|-----|--------|-----|--------|
| 1   | DCD-5  | 2   | DSR-5  |
| 3   | RXD-5  | 4   | RTS-5  |
| 5   | TXD-5  | 6   | CTS-5  |
| 7   | DTR-5  | 8   | RI-5   |
| 9   | GND    | 10  | GND    |
| 11  | GND    | 12  | GND    |
| 13  | DCD-6  | 14  | DSR-6  |
| 15  | RXD-6  | 16  | RTS-6  |
| 17  | TXD-6  | 18  | CTS-6  |
| 19  | DTR-6  | 20  | RI-6   |
| 21  | GND    | 22  | GND    |
| 23  | GND    | 24  | GND    |
| 25  | PD7    | 26  | PD6    |
| 27  | PD5    | 28  | PD4    |
| 29  | PD3    | 30  | PD2    |
| 31  | PD1    | 32  | PD0    |
| 33  | -STB   | 34  | -AFD   |
| 35  | -ERR   | 36  | -INIT  |
| 37  | -SLIN  | 38  | -ACK   |
| 39  | BUSY   | 40  | PE     |
| 41  | SLCT   | 42  | GND    |
| 43  | GND    | 44  | GND    |
| 45  | VCC5   | 46  | VCC12  |
| 47  | VCC5   | 48  | VCC12  |
| 49  | VCC5   | 50  | VCC12  |



## Applications



Use one system in different markets!

HSUPA 3.5G

DVB/T/ATSC/Hybrid

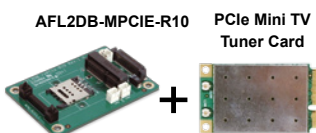
UART  
Serial Port

Ethernet

USB 3.0

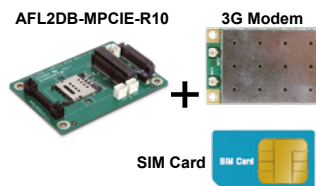
Video card

### Digital TV



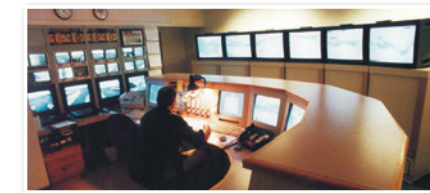
KIOSK System

### 3G/3.75G



Mobile Broadcasting System

### 4-Port Video Capturing



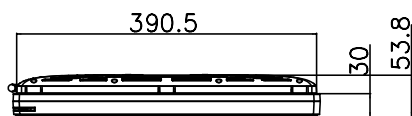
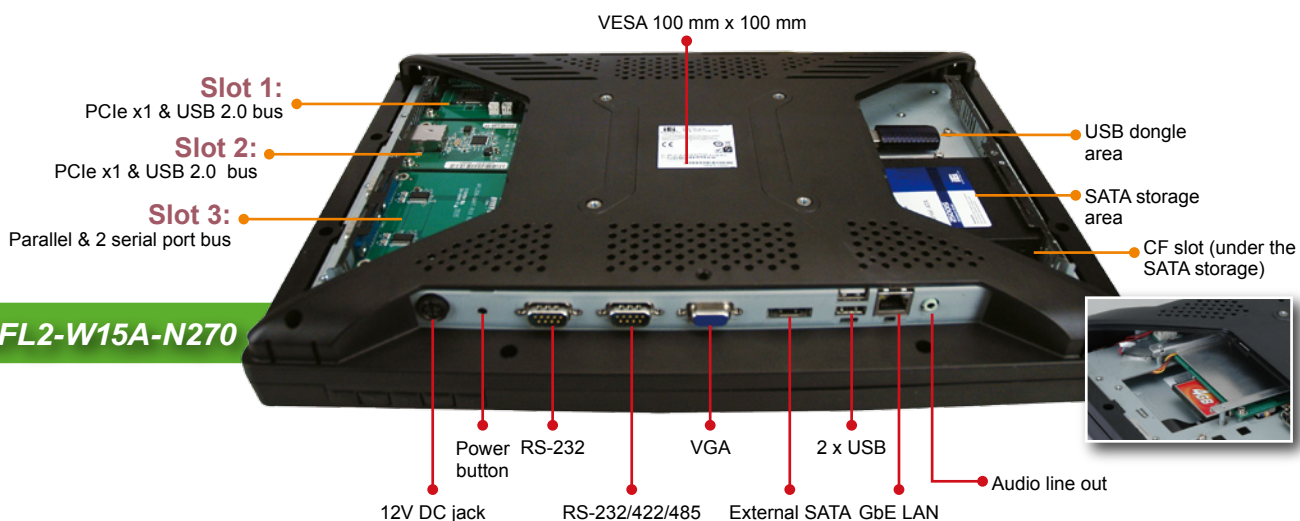
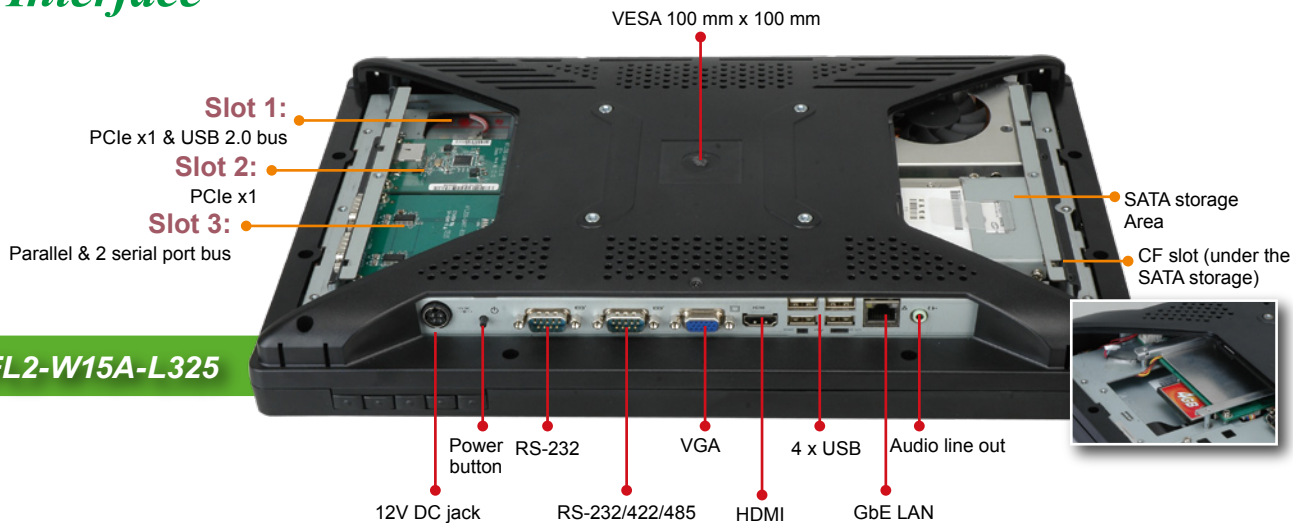
Surveillance System



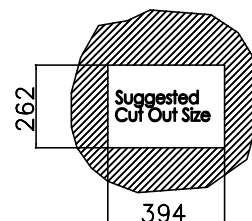
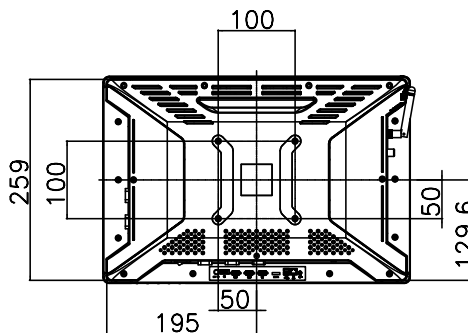
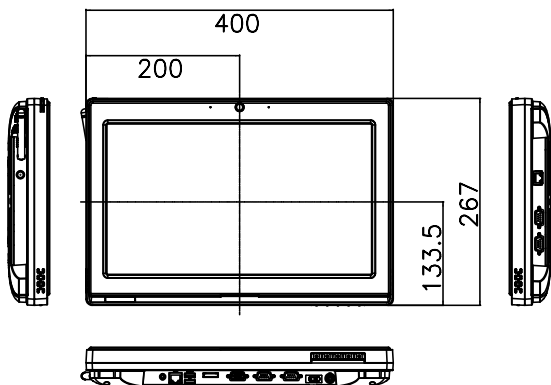
Specifications

|                    | Model   | AFL2-W15A-N270  | AFL2-W15A-L325   |
|--------------------|---|---|--|
| LCD Specifications | Size  | Wide 15.6" TFT LCD  |  |
|                    | Resolution  | 1366 x 768  |  |
|                    | Brightness  | 250 cd/m <sup>2</sup>   |  |
|                    | Contrast Ratio  | 500:1   |  |
|                    | LCD Color   | 16.2 M  |  |
|                    | Pixel Pitch (mm)  | 0.252(H) x 0.252(V)   |  |
|                    | Viewing Angle (H-V)   | 110°(H) / 85°(V)  |  |
|                    | Backlight MTBF  | 50000 hrs   |  |
| System             | CPU   | Intel® Atom™ processor N270 1.6 GHz CPU   | AMD ASB1 L325 dual core 1.5 GHz CPU  |
|                    | Chipset   | Intel® 945GSE + ICH7M   | AMD 780E + SB710   |
|                    | RAM   | Support one 400 MHz or 533 MHz DDR2 SO-DIMM (2 GB max.)   | Support two 400 MHz or 533 MHz DDR2 SO-DIMM (4 GB max.)  |
|                    | SSD   | CF Type II  | CF Type II   |
|                    | HDD   | 1 x 2.5" SATA HDD Bay   | 1 x 2.5" SATA HDD Bay  |
|                    | Watchdog Timer  | Software programmable supports 1~255 sec. system reset  | Software programmable supports 1~255 sec. system reset   |
|                    | Input / Output  | 1 x RS-232 COM port<br>1 x RS-232/422/485 COM port<br>1 x RJ-45 for GbE LAN<br>2 x USB 2.0<br>1 x Power switch<br>1 x Reset button<br>1 x Audio port (Line out)<br>1 x VGA<br>1 x Power jack<br>1 x External SATA<br>1 x 8-bit digital I/O, 4-bit input/4-bit output (optional) | 1 x RS-232 COM port<br>1 x RS-232/422/485 COM port<br>1 x RJ-45 for GbE LAN<br>4 x USB 2.0<br>1 x Power switch<br>1 x Reset button<br>1 x Audio port (Line out)<br>1 x VGA<br>1 x Power jack<br>1 x HDMI<br>1 x 8-bit digital I/O, 4-bit input/4-bit output (optional) |
|                    | Expansion Interface   | 2 x PCIe by 1, 1 x USB dongle, 1 x Parallel port expansion, 2 x Serial port expansion   | 2 x PCIe by 1, 1 x Parallel port expansion, 2 x Serial port expansion<br>* USB signal not Support on slot 2  |
| Other Features     | Audio   | AMP 1.5 W + 1.5 W (internal speaker)  |  |
|                    | Camera  | 1.3 M pixels with low light function  |  |
|                    | RFID Reader   | EM 125 KHz or Mifare 13.56 MHz card reader (optional)   |  |
|                    | OSD Function  | LCD on/off, brightness up/down, volume up/down  |  |
|                    | Ambient light sensor  | Yes   |  |
|                    | Infrared Remote Controller  | LCD on/off, brightness up/down, volume up/down  |  |
|                    | Touch Screen  | Resistive type 5-wire flat touch window   |  |
| Wireless           | 1 x Optional HSUPA mobile module (PCIe mini card interface)<br>(Support GSM 850, EGSM 900, DCS 1800 & 1900)<br>1 x Wireless LAN 802.11 b/g/n module (internal PCIe mini card interface)<br>1 x Bluetooth function (internal USB interface, bluetooth V2.1+EDR)<br>Supported Bands<br>*HSPA/UMTS — 800/850/900/1900/2100 MHz<br>*Quad-band EDGE/GPRS/GSM — 850/900/1800/1900 MHz<br>*Dual-band EV-DO/CDMA — 800/1900 MHz |   |  |
| Physical           | Construction Front Panel  | ABS + PC plastic front frame  |  |
|                    | Mounting  | VESA 100 mm x 100mm   |  |
|                    | Color   | Black C   |  |
|                    | Dimensions (mm)   | 400(W) x 267(H) x 54(D)   |  |
|                    | Weight (N/G)  | 3.8 kg  |  |
| Environment        | Temperature (°C)  | Operation: -10°C ~ 50°C, Storage: -20°C ~ 60°C  |  |
|                    | IP Level  | Front panel IP64  |  |
|                    | Safety & EMI  | CE / FCC / CB / CCC   |  |
| Power              | Power Supply  | 60W power adapter<br>Input: 90VAC~264VAC, 50/60 Hz<br>Output: 12VDC   | 84W power adapter<br>Input: 90VAC~264VAC, 50/60Hz<br>Output: 12VDC   |
|                    | Power Requirement   | 12VDC   |  |
|                    | Power Consumption   | 51W   |  |

# I/O Interface



**AFL2-W15A**  
Dimensions (Unit: mm)



### Optional Kit

| Options   |            | AFL2-W15A-N270/R<br>(Resistive type touch)   | AFL2-W15A-780E/R<br>(Resistive type touch) |
|---|------------|--|--|
| Panel Mounting Kit                                  |            | AFL2PK-W15A-R10  |  |
| Wall Mounting Kit                                   |            | AFLWK-19 / AFLWK-19B   |  |
| ARM   |            | ARM-11-RS / ARM-31-RS  |  |
| STAND   |            | STAND-A19 / STAND-B19 / STAND-C19 / STAND-210-R11                                    |  |
| OS  | Win CE 6.0 | AFL2CF-W15-N270-CE060-R10 (128 MB CF card)   | --   |
|   | Win XPE    | AFL2CF-W15-N270-XPE-R10 (1 GB CF card)   | AFL2CF-W15-L325-XPE-R10 (1 GB CF card)     |
|   | Linux      | AFL2CF-W15-N270-LNX-R10 (2 GB CF card)   | AFL2CF-W15-L325-LNX-R10 (2 GB CF card)     |
|   | Win 7      | AFL2CF-W15-N270-WES7E-R10<br>(2 GB CF card)  | AFL2CF-W15-780-WES7E-R10<br>(2 GB CF card) |
| AFL2SD-W15-N270-WES7E-R10<br>(4 GB SATA SSD module) |            | AFL2SD-W15-780-WES7E-R10<br>(4 GB SATA SSD module)                                   |  |
| DC 12 V Input UPS                                   |            | AUPS-B10-R10 (VESA 100, DC 12 V input, 12 V output 100 W UPS module with 3800 mAh)   |  |
| DC 9~36 V Input UPS                                 |            | AUPS-B20-R10 (VESA 100, DC 9~36 V input, 12 V output 100 W UPS module with 3800 mAh) |  |

### Packing List

| Item                 | P/N   | Q'ty | Specifications                         |
|----------------------|---|------|--|
| Touch Pen            | 43125-0002C0-00-RS                                    | 1    |  |
| Power Adapter        | 63000-FSP060DBAB1554-RS<br>(for Intel® N270 platform) | 1    | 90-264 VAC input , 12 VDC output , 60W |
|                      | 63000-FSP084DMBA1308-RS<br>(for AMD L325 platform)    |      | 90-264 VAC input , 12 VDC output , 84W |
| Power Cord           | 32000-000002-RS                                       | 1    | 1750 mm; European standard             |
| User's Manual CD ROM | 7B000-000087-RS                                       | 1    |  |
| Screws               | 44013-030041-RS                                       | 4    |  |
| Remote Controller    | 7Z000-8T00320ICP05G-RS                                | 1    |  |



#### Touch Stylus Pen

Model No.:43125-0002C0-00-RS Description:

- 1) With special material
  - 2) Combined soft rubber with anti-oxidative plastic material
  - 3) Durable and flexible
  - 4) Particularly designed for AFOLUX GEN II touch Pen
- Length: 140mm

### Ordering Information

| Resistive Type Touch |                            |  |
|----------------------|----------------------------|--|
| Intel® Atom™         | AFL2-W15A-N270/R/1G-R10    | 15.6" 250cd/m² WXGA+ fanless panel PC with Intel® Atom™ N270 1.6 GHz, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera, microphone, 1GB DDR2 RAM, RoHS                  |
|                      | AFL2-W15A-N270/R-EM/1G-R10 | 15.6" 250cd/m² WXGA+ fanless panel PC with Intel® Atom™ N270 1.6 GHz, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3M camera, microphone, 1GB DDR2 RAM, EM card reader         |
|                      | AFL2-W15A-N270/R-MF/1G-R10 | 15.6" 250cd/m² WXGA+ fanless panel PC with Intel® Atom™ N270 1.6 GHz, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera, microphone, 1 GB DDR2 RAM, Mifare card reader   |
| AMD 780E             | AFL2-W15A-L325/R/1G-R10    | 15.6" 250cd/m² WXGA+ panel PC with AMD 780E + L325 dual core 1.5 GHz CPU, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera, microphone, 1GB DDR2 RAM, RoHS              |
|                      | AFL2-W15A-L325/R-EM/1G-R10 | 15.6" 250cd/m² WXGA+ panel PC with AMD 780E + L325 dual core 1.5GHz CPU, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3M camera, microphone, 1GB DDR2 RAM, EM card reader      |
|                      | AFL2-W15A-L325/R-MF/1G-R10 | 15.6" 250cd/m² WXGA+ panel PC with AMD 780E + L325 dual core 1.5 GHz CPU, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera,microphone, 1GB DDR2 RAM, Mifare card reader |

### Optional Module

| Model Name      | AFL2DB-MPCIE-R10   | AFL2DB-UART-R10          | AFL2DB-LAN-R10  | AFL2DB-USB3-R10   | AFL2DB-CPT4-R10  |
|-----------------|--|--------------------------|---|---|--|
| Interface       | PCIe x 1   | UART                     | PCIe x 1  | PCIe x 1  | PCIe x 1   |
| Board size (mm) | 50 x 75  | 80 x 75                  | 50 x 75   | 50 x 75   | 50 x 75  |
| Specifications  | Support full size PCIe mini card slot and standard SIM card socket | Two DB9 RS-232 interface | Cotroller: RTL8111CP<br>Connection rate: one port 10/100/1000Base-T (RJ-45) | Host Controller: Fresco FL1000G<br>Connction rate: USB2.0 (max. 480Mbps) / USB3.0 (max. 5Gbps)<br>USB power output: DC +5V @ 900mA (max.) | 4 channel video capture with 4 BNC inputs.<br>Video resolution - NTSC/PAL: D1, Dalf-D1, CIF<br>Total recording rate: 120fps (NTSC), 100fps (PAL) |
| OS support      | Windows 7, Windows XP  | Windows 7, Windows XP    | Windows 7, Windows XP, Linux driver for kernel 2.6.                         | Windows 7, Windows XP   | Windows 7, Windows XP  |

\* Packing with one video capture card and one DB9 to 4 BNC connector cable