

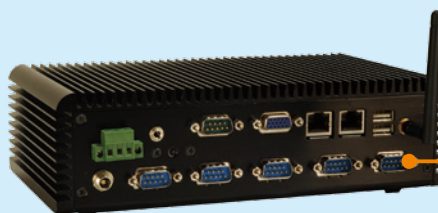
# ECW-281B/B2 Series

Fanless Embedded System for  
Intel® Atom™ Dual core D525/N270

**New**

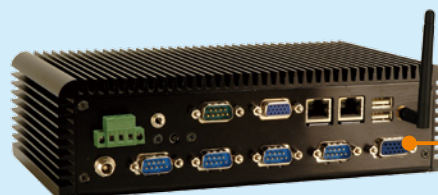


**Extended Temperature**



**6 COM**

COM2 for  
ECW-281B Series



**Dual VGA**

2nd VGA for  
ECW-281B2 Series

## Features

- ◆ Fanless system with
  - » 1.8 GHz Intel® Atom™ D525 dual-core CPU
  - » 1.6 GHz Intel® Atom™ N270 CPU
- ◆ Supports four USB 2.0 ports and six COM ports
- ◆ Dual GbE LAN ideal for high speed network applications
- ◆ Supports CompactFlash®, 2.5" SATA HDD and SSD storage devices
- ◆ 12 VDC and 9 VDC - 36 VDC power input models available
- ◆ Supports dual VGA display (B2 model only)



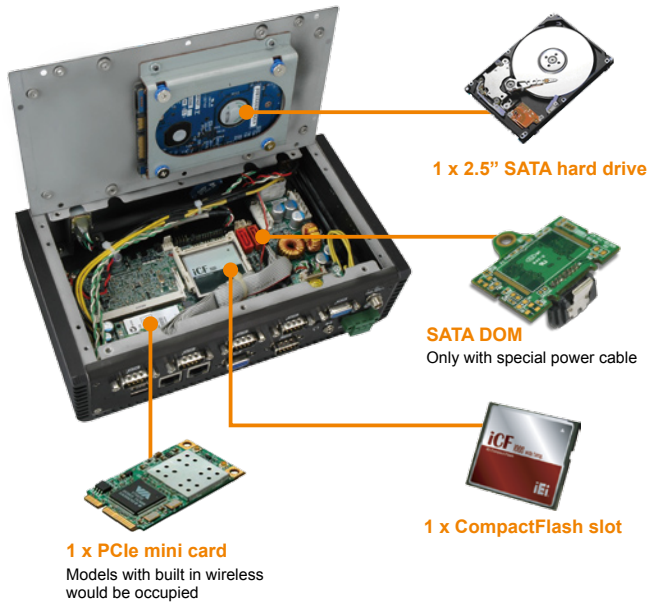
## Specifications

-20°C ~ +70°C

| Model Name            | ECW-281B-D525<br>(ECW-281B2-D525)                                                                                   | ECW-281B-N270<br>(ECW-281B2-N270)                                                                                   | ECW-281B-N270-WT                                                                                                    |
|-----------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Platform              | Intel®                                                                                                              |                                                                                                                     |                                                                                                                     |
| Color                 | Black                                                                                                               |                                                                                                                     |                                                                                                                     |
| Dimensions            | 229 x 132 x 64mm                                                                                                    |                                                                                                                     |                                                                                                                     |
| Chassis Construction  | Aluminum alloy with heavy duty metal                                                                                |                                                                                                                     |                                                                                                                     |
| Motherboard Model     | WAFFER-PV-D5252                                                                                                     | WAFFER-945GSE-N270                                                                                                  | WAFFER-945GSE-N270W2                                                                                                |
| Processor CPU         | Intel® Atom™ D525 Processor 1.8GHz / 1MB L2 cache                                                                   | Intel® Atom™ N270 1.6GHz / 512KB L2 cache                                                                           |                                                                                                                     |
| Chipset               | ICH8M                                                                                                               | Intel® 945GSE + ICH7M                                                                                               | Intel® 945GSE + ICH7M                                                                                               |
| System Memory         | 1 x 204-pin 1GB DDR3 SODIMM<br>(2GB for optional)                                                                   | 1 x 200-pin 1GB DDR2 SODIMM<br>(2GB for optional)                                                                   | 1 x 200-pin 1GB DDR2 SODIMM<br>(2GB for optional)                                                                   |
| Hard Drive            | 1 x 2.5" SATA HDD space                                                                                             |                                                                                                                     |                                                                                                                     |
| Compact Flash         | 1                                                                                                                   | 1                                                                                                                   | 1                                                                                                                   |
| USB 2.0               | 4                                                                                                                   | 4                                                                                                                   | 4                                                                                                                   |
| Ethernet              | 2 x Realtek RTL8111E PCIe GbE                                                                                       | 2 x Realtek RTL8111CP PCIe GbE                                                                                      | 2 x Realtek RTL8111CP PCIe GbE                                                                                      |
| RS-232                | 6 RS-232 ports for ECW-281B-D525<br>(COM2: Default RS-232, RS422/485 optional)<br>5 RS-232 ports for ECW-281B2-D525 | 6 RS-232 ports for ECW-281B-N270<br>(COM2: Default RS-232, RS422/485 optional)<br>5 RS-232 ports for ECW-281B2-N270 | 6 RS-232 ports for ECW-281B-N270<br>(COM2: Default RS-232, RS422/485 optional)<br>5 RS-232 ports for ECW-281B2-N270 |
| Display               | 1 (2) x VGA                                                                                                         | 1 (2) x VGA                                                                                                         | 1 x VGA                                                                                                             |
| Resolution            | 2048 x 1536 @ 60Hz                                                                                                  | 1920 x 1200 @ 60Hz                                                                                                  | 1920 x 1200 @ 60Hz                                                                                                  |
| Audio                 | 1 x speaker out                                                                                                     |                                                                                                                     |                                                                                                                     |
| Wireless              | 1 x 802.11 b/g/n                                                                                                    | 1 x 802.11 b/g/n                                                                                                    | N/A                                                                                                                 |
| Expansions            | 1 x PCIe Mini Card slot (reserved for wifi)                                                                         | 1 x PCIe Mini Card slot (reserved for wifi)                                                                         | 1 x PCIe Mini Card slot                                                                                             |
| Power Consumption     | 12V@1.79A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)                                                                  | 12V@1.25A (Intel® Atom™ N270 1.6G with 1GB DDR2)                                                                    | 12V@1.25A (Intel® Atom™ N270 1.6G with 1GB DDR2)                                                                    |
| Power input           | 12VDC in<br>9-36V (WD Model)                                                                                        | 12VDC in<br>9-36V (WD Model)                                                                                        | 12VDC in                                                                                                            |
| Mounting              | DIN mount, VESA 75 mount, wall mount                                                                                |                                                                                                                     |                                                                                                                     |
| Operating Temperature | -20°C ~ 65°C with CF/SSD<br>-10°C ~ 50°C with HDD                                                                   | -10°C ~ 60°C with CF/SSD<br>-10°C ~ 50°C with HDD                                                                   | -20°C ~ 70°C with CF/SSD                                                                                            |
| Operating Shock       | Half sine wave 3G; 11ms 3axis                                                                                       |                                                                                                                     |                                                                                                                     |
| Operating Vibration   | * MIL-STD-810F 514.5C-1<br>MIL-STD-810F 514.5C-2                                                                    | MIL-STD-810F 514.5C-2                                                                                               | MIL-STD-810F 514.5C-2                                                                                               |
| Weight (Net/Gross)    | 2.1kg/3.9kg                                                                                                         |                                                                                                                     |                                                                                                                     |

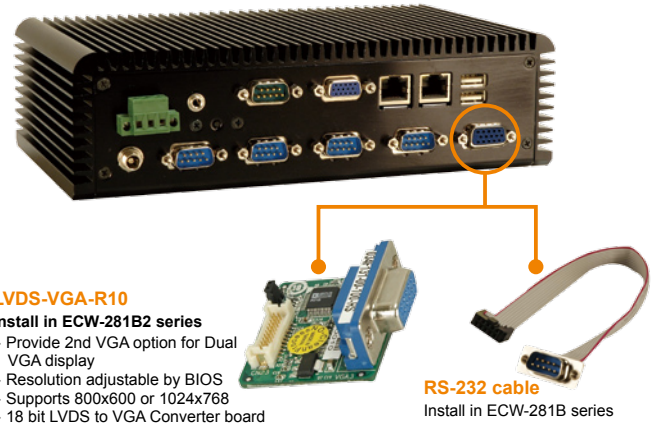
\*The system that with Hard drive can meet the Standard testing MIL-STD-810F 514.5C-1. and with SSD/CF can meet MIL-STD-810F 514.5C-2

## Storage & Expansions



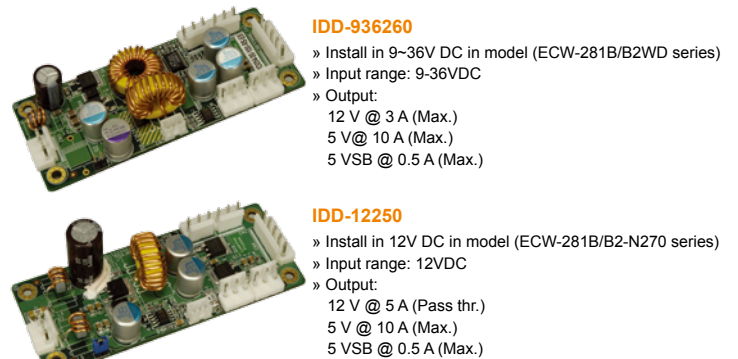
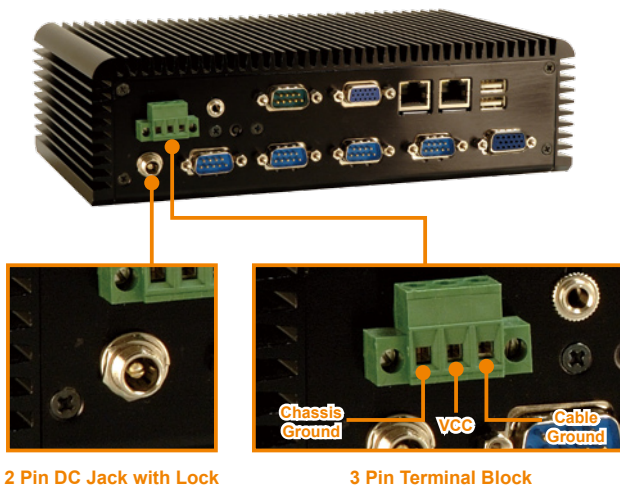
## Dual Display

The models of the ECW-281B series, either with Intel® Atom™ N270 single-core processor or D525 dual-core processor, all support dual VGA display through the optional LVDS to VGA converter module. The first VGA output signal is from on-board chipset and supports resolutions up to 2048x1536 (D525) while the second display output is made through the LVDS to VGA converter board (LVDS-VGA-R10) via the LVDS interface and supports resolutions up to 1024x768.

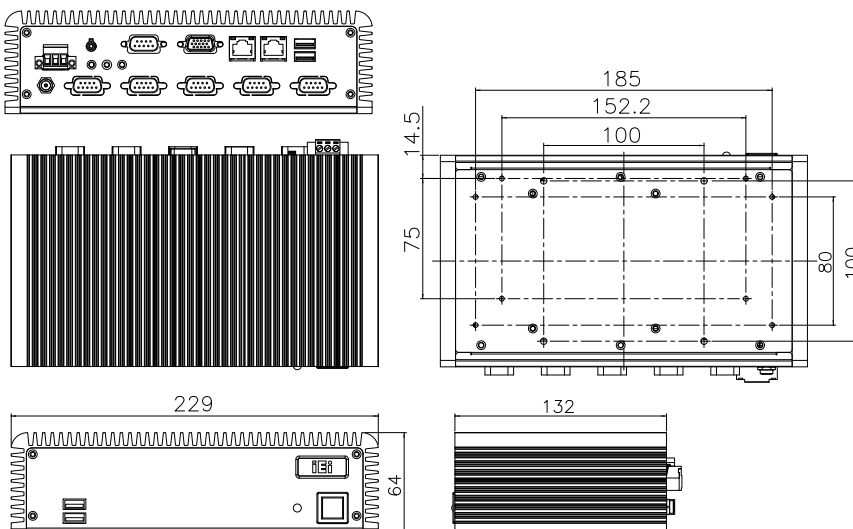


## Extended Voltage Input

The ECW-281B rear panel has two types of power input connectors which support either single 12 V DC input or 9~36 V DC input depending on the power module installed in the system.



## Dimensions (Unit: mm)



## Packing List

|                                                                                    |
|------------------------------------------------------------------------------------|
| 1 x QIG                                                                            |
| 1 x Screw set                                                                      |
| 1 x DIN mount                                                                      |
| 1 x Hard drive thermal pad                                                         |
| 2 x Wall mount bracket                                                             |
| 1 x Driver & user manual CD                                                        |
| 1 x 12V 60W power adapter (optional for WD model)<br>(P/N:63000-FSP060DBAB1552-RS) |
| 1 x Power cord (optional for WD model)                                             |
| 1 x Wireless antenna (for wireless model)                                          |



DK-84MB

## Extended Temperature

The ECW-281B series with Intel® Atom™ N270 single-core processor is a fanless system which supports a wide range of temperature from -20°C to 70°C. The ECW-281B series industrial computer is powerful and can meet customers' needs with its various add-on functions. The table below is a model selection guide for the ECW-281B series.



### Spec Comparison table

| Model          | ECW-281B                            | ECW-281B2                           | ECW-281BWD                          | ECW-281B2WD                         | ECW-281B-WT         |
|----------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------|
| Wireless model | ECW-281BW                           | ECW-281B2W                          | ECW-281BWDW                         | ECW-281B2WDW                        | N/A                 |
| Main board     | WAFER-945GSE-N270<br>WAFER-PV-D5252 | WAFER-945GSE-N270<br>WAFER-PV-D5252 | WAFER-945GSE-N270<br>WAFER-PV-D5252 | WAFER-945GSE-N270<br>WAFER-PV-D5252 | WAFER-945GSE-N270W2 |
| Com port       | 6                                   | 5                                   | 6                                   | 5                                   | 6                   |
| VGA display    | 1                                   | 2                                   | 1                                   | 2                                   | 1                   |
| Power input    | 12V DC in                           | 12V DC in                           | 9~36V DC in                         | 9~36V DC in                         | 12V DC in           |
| Adaptor        | 60W                                 | 60W                                 | N/A                                 | N/A                                 | N/A                 |

## Ordering Information

|      |               |                           |                                                                                                                                                                                                                                                           |
|------|---------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| D525 | 12VDC input   | ECW-281B-R10/D525/1GB     | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with 6 serial ports, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS                                                     |
|      |               | ECW-281BW-R10/D525/1GB    | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with 6 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS                      |
|      |               | ECW-281B2-R10/D525/1GB    | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with dual VGA display and 5 serial ports, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS                                |
|      |               | ECW-281B2W-R10/D525/1GB   | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with dual VGA display and 5 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS |
|      | 9~36VDC input | ECW-281BWD-R10/D525/1GB   | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with 6 serial ports, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                                                 |
|      |               | ECW-281BWDW-R10/D525/1GB  | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with 6 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                  |
|      |               | ECW-281B2WD-R10/D525/1GB  | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with dual VGA display and 5 serial ports, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                            |
|      |               | ECW-281B2WDW-R10/D525/1GB | Fanless embedded system with WAFER-PV-D5252, with dual core Intel® ATOM™ D525 1.8G, with dual VGA display and 5 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS                             |
| N270 | 12VDC input   | ECW-281B-R21/N270/1GB     | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, built-in 1GB DDR2 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS                                                                                       |
|      |               | ECW-281BW-R21/N270/1GB    | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, built-in 802.11b/g/n wireless, with 1GB DDR2 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS                                                            |
|      |               | ECW-281B2-R21/N270/1GB    | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, dual VGA, built-in 1GB DDR2 memory, 12VDC in, with 60W power adapter with ERP and PSE certificates, black, RoHS                                                                        |
|      |               | ECW-281B2W-R21/N270/1GB   | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, dual VGA, built-in 802.11b/g/n wireless, with 1GB DDR2 memory, 12VDC in, 60W adapter with ERP and PSE certificates, black, RoHS                                                        |
|      | 9~36VDC input | ECW-281B-WT-R21/N270/1GB  | Extend temperature fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, built-in 1GB DDR2 memory, 12VDC in, w/o power adapter, -20°C ~ 70°C degree, black, RoHS                                                                             |
|      |               | ECW-281BWD-R21/N270/1GB   | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, built-in 1GB DDR2 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                                                                                   |
|      |               | ECW-281BWDW-R21/N270/1GB  | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, built-in 802.11b/g/n wireless, with 1GB DDR2 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                                                        |
|      |               | ECW-281B2WD-R21/N270/1GB  | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, dual VGA, built-in 1GB DDR2 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                                                                         |
|      |               | ECW-281B2WDW-R21/N270/1GB | Fanless embedded system with Intel® Atom™ N270 1.6GHz CPU, 945GSE, dual VGA, built-in 802.11b/g/n wireless, with 1GB DDR2 memory, 9-36VDC in, w/o power adapter, black, RoHS                                                                              |

## Embedded OS

|                         |                                                                                           |
|-------------------------|-------------------------------------------------------------------------------------------|
| ECWCF-281B-D525-XPE     | Windows XP Embedded OS image, for ECW-281B-D525, with 1GB CompactFlash® memory card, RoHS |
| ECWCF-281B-D525-CE060   | Windows CE 6.0 OS image, for ECW-281B-D525, with 128MB CompactFlash® memory card, RoHS    |
| ECWCF-281B-945GSE-XPE   | Windows XP Embedded OS image, for ECW-281B-N270, with 1GB CompactFlash® memory card, RoHS |
| ECWCF-281B-945GSE-CE060 | Windows CE 6.0 OS image, for ECW-281B-N270, with 128MB CompactFlash® memory card, RoHS    |