

# ECW-281B/B2 Series

Fanless Embedded System with Intel® Atom™ Dual-core D525/N270 CPU



## 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 V DC and 9 V DC - 36 V DC power input models available
- Supports dual VGA display (B2 model only)



## Specifications

Model Name		ECW-281B-D525 (ECW-281B2-D525)	ECW-281B-N270 (ECW-281B2-N270)
Chassis	Color	Black	Black
	Dimensions (WxDxH) (mm)	229 x 132 x 64	229 x 132 x 64
	System Fan	Fanless	Fanless
	Chassis Construction	Aluminum alloy with heavy duty metal	Aluminum alloy with heavy duty metal
Motherboard	Motherboard Model	WAFER-PV-D5252	WAFER-945GSE-N270
	SBC Size (mm)	3.5", 146 x 102	3.5", 146 x 102
	CPU	Intel® Atom™ D525 dual-core 1.8GHz/1MB L2 cache	Intel® Atom™ N270 1.6 GHz with 533 MHz FSB
	Chipset	Intel® ICH8M	Intel® 945GSE + ICH7M
	System Memory	1 GB DDR3 204-pin SO-DIMM memory pre-installed	1 GB DDR2 200-pin SO-DIMM memory pre-installed
Storage	Hard Drive	1 x 2.5" SATA HDD space	1 x 2.5" SATA HDD space
	CF Card/CFast	1	1
I/O Interfaces	USB 2.0	4	4
	Ethernet	2 x Realtek 8111E PCIe GbE	2 x Realtek 8111E PCIe GbE
	COM Port	6 x RS-232 ports for ECW-281B-D525 (COM2: Default RS-232, RS422/485 optional) 5 x RS-232 ports for ECW-281B2-D525	6 x RS-232 ports for ECW-281B-N270 (COM2: Default RS-232, RS422/485 optional) 5 x RS-232 ports for ECW-281B2-N270
	Display	1 (2) x VGA	1 (2) x VGA
	Resolution	VGA: Up to 2048 x 1536@60Hz (VGA: Up to 1024 x 768@60MHz)	VGA: Up to 1920 x 1200@60Hz (VGA: Up to 1024x768@60MHz)
	Audio	1 x Speaker out	1 x Speaker out
Expansions	PCIe Mini	1 x PCIe Mini card slot	1 x PCIe Mini card slot
Power	Power Input	DC jack: 12 V DC 3-pin terminal: 9 V~36 V DC	DC jack: 12 V DC 3-pin terminal: 9 V~36 V DC
	Power Consumption	12V@1.79A (Intel® Atom™ D525 1.8GHz CPU with 1GB DDR3 memory)	12 V@1.25 A (Intel® Atom™ N270 1.6 GHz CPU with 1GB DDR2 memory)
Reliability	Mounting	DIN mount, VESA 75 mount, wall mount	DIN mount, VESA 75 mount, wall mount
	Operating Temperature	-20°C ~ 65°C with CompactFlash®/SSD -10°C ~ 50°C with HDD	-10°C ~ 60°C with CompactFlash®/SSD -10°C ~ 50°C with HDD
	Operating Shock	Half-sine wave 3G, 11ms 3 shocks per axis	Half-sine wave 3G, 11ms 3 shocks per axis
	Operating Vibration	* MIL-STD-810F 514.5C-1 MIL-STD-810F 514.5C-2	MIL-STD-810F 514.5C-2
	Weight (Net/Gross)	2.1 kg/3.9 kg	2.1 kg/3.9 kg

\*Systems with hard drive meet MIL-STD-810F 514.5C-1 specifications. SSD/CF systems meet MIL-STD-810F 514.5C-2 specifications.

## Spec Comparison Table

Model	ECW-281B	ECW-281B2	ECW-281BWD	ECW-281B2WD
Main board	WAFER-945GSE-N270 WAFER-PV-D5252	WAFER-945GSE-N270 WAFER-PV-D5252	WAFER-945GSE-N270 WAFER-PV-D5252	WAFER-945GSE-N270 WAFER-PV-D5252
COM port	6	5	6	5
VGA display	1	2	1	2
Power input	12 V DC in	12 V DC in	9 V~36 V DC in	9 V~36 V DC in
Adapter	60W	60W	N/A	N/A

1

Industrial Computing Solutions

2

Video Capture Solutions

3

Industrial Computer Chassis

4

Open Frame Monitor

5

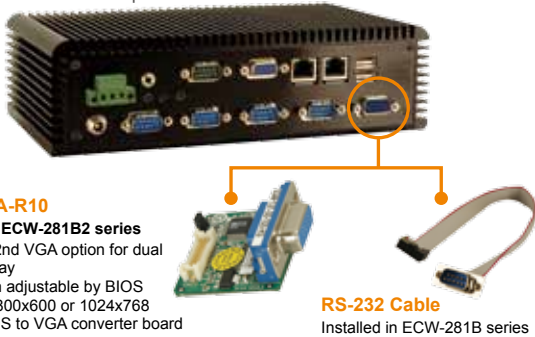
Power Supply/ Peripherals

6

All-in-One System

## Dual Display

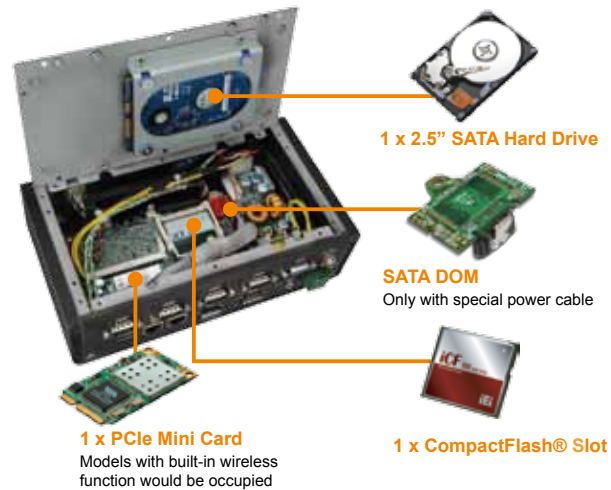
The models of the ECW-281B series, either with Intel® Atom™ N270 single-core processor or D525 dual-core processor, both support dual VGA display through the optional LVDS to VGA converter module. The first VGA output signal comes from the on-board chipset and supports resolutions up to 2048x1536 (D525),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



**LVDS-VGA-R10**  
**Installed in ECW-281B2 series**  
 » Provides 2nd VGA option for dual VGA display  
 » Resolution adjustable by BIOS  
 » Supports 800x600 or 1024x768  
 » 18-bit LVDS to VGA converter board

**RS-232 Cable**  
 Installed in ECW-281B series

## Storage & Expansions



1 x 2.5" SATA Hard Drive

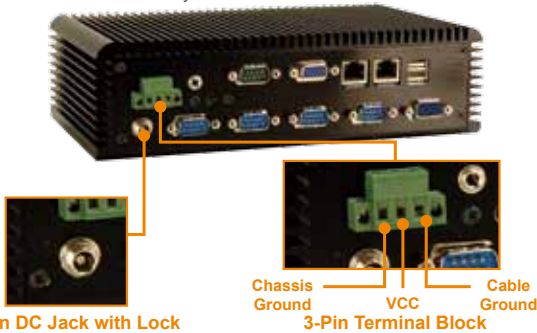
**SATA DOM**  
 Only with special power cable

1 x PCIe Mini Card  
 Models with built-in wireless function would be occupied

1 x CompactFlash® Slot

## 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 V~36 V DC input depending on the power module installed in the system.



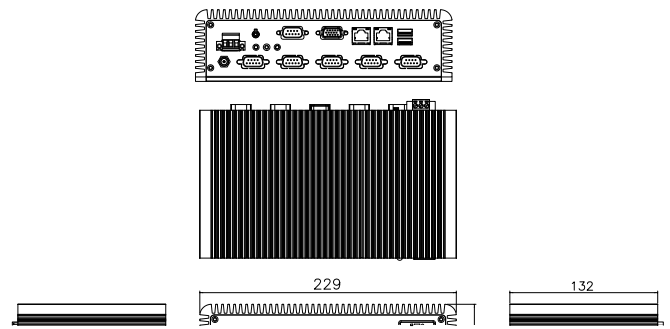
2-Pin DC Jack with Lock

Chassis Ground VCC Cable Ground  
**3-Pin Terminal Block**

**IDD-936260**  
 » Installed in 9 V~36 V DC in model (ECW-281B/B2WD series)  
 » Input range: 9 V~36 V DC  
 » Output:  
 12 V @ 3 A (max.)  
 5 V @ 10 A (max.)  
 5 VSB @ 0.5 A (max.)

**IDD-12250**  
 » Installed in 12 V DC in model (ECW-281B/B2-N270 series)  
 » Input range: 12 V DC  
 » Output:  
 12 V @ 5 A (pass thr.)  
 5 V @ 10 A (max.)  
 5 VSB @ 0.5 A (max.)

## Dimensions (Unit: mm)



## Options

Part No.	Description
<b>EMB-WIFI-KIT01-R11</b>	1T1R Wi-Fi module kit for embedded system, IEEE802.11b/g/n, 1 x Wi-Fi module, 2 x RF cable, 2 x Antenna, RoHS

## Packing List

1 x Power cord only for 12V
1 x Screw set
1 x 12V 60W power adapter (with PSE/ErP certified, only for 12V)
1 x Wall mount bracket
1 x HDD thermal pad
1 x Utility CD
1 x One Key Recovery CD



DK-84MB

## Ordering Information

Part No.	Description
<b>D525</b>	<b>ECW-281B-R12/D525/1GB</b> Fanless embedded system with WAFER-PV-D5252, with dual-core Intel® Atom™ D525 1.8GHz CPU, with 6 serial ports, with 1 GB DDR3 memory, 12 V DC in, 60W power adapter with ErP and PSE certificates, black, RoHS
	<b>ECW-281B2-R12/D525/1GB</b> Fanless embedded system with WAFER-PV-D5252, with dual-core Intel® Atom™ D525 1.8GHz CPU, with dual VGA display and 5 serial ports, with 1 GB DDR3 memory, 12 V DC in, 60W power adapter with ErP and PSE certificates, black, RoHS
	<b>ECW-281BWD-R11/D525/1GB</b> Fanless embedded system with WAFER-PV-D5252, with dual-core Intel® Atom™ D525 1.8GHz CPU, with 6 serial ports, with 1 GB DDR3 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
	<b>ECW-281B2WD-R11/D525/1GB</b> Fanless embedded system with WAFER-PV-D5252, with dual-core Intel® Atom™ D525 1.8GHz CPU, with dual VGA display and 5 serial ports, with 1 GB DDR3 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
<b>N270</b>	<b>ECW-281B-R31/N270/1GB</b> Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, Intel® 945GSE, built-in 1 GB DDR2 memory, 12 V DC in, 60W power adapter with ErP and PSE certificates, black, RoHS
	<b>ECW-281B2-R31/N270/1GB</b> Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, Intel® 945GSE, dual VGA, built-in 1 GB DDR2 memory, 12 V DC in, with 60W power adapter with ErP and PSE certificates, black, RoHS
	<b>ECW-281BWD-R30/N270/1GB</b> Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, Intel® 945GSE, built-in 1 GB DDR2 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
	<b>ECW-281B2WD-R30/N270/1GB</b> Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, Intel® 945GSE, dual VGA, built-in 1 GB DDR2 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
<b>32205-003200-100-RS</b>	Flat cable, RS-232/422/485, RS-422/485 cable, 2, 100mm, 28AWG, (A) D-sub 9-pin male, (B) DU pont 2x7P P=2.0, female, IDIOT-PROOF, 32200-074600-RS substitute, hwalong, RoHS