

# ECW-281B/B2 Series

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



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



## Specifications

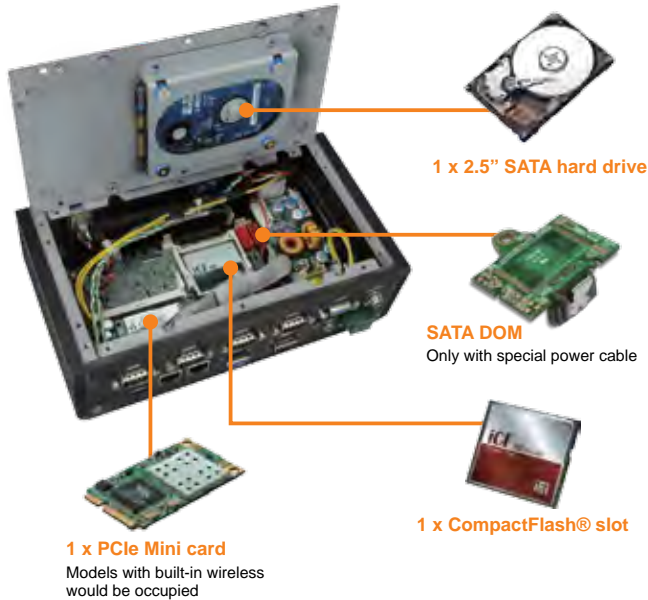
20°C ~ +70°C

Model Name		ECW-281B-D525 (ECW-281B2-D525)	ECW-281B-N270 (ECW-281B2-N270)	ECW-281B-N270-WT
Chassis	Color	Black	Black	Black
	Dimensions (WxDxH) (mm)	229 x 132 x 64	229 x 132 x 64	229 x 132 x 64
	Chassis Construction	Aluminum alloys with heavy duty metal	Aluminum alloys with heavy duty metal	Aluminum alloys with heavy duty metal
Motherboard	Motherboard Model	WAFER-PV-D5252	WAFER-945GSE-N270	WAFER-945GSE-N270W2
	Processor CPU	Intel® Atom™ D525 1.8 GHz	Intel® Atom™ N270 1.6 GHz	Intel® Atom™ N270 1.6 GHz
	Chipset	ICH8M	Intel® 945GSE + ICH7M	Intel® 945GSE + ICH7M
Storage	System Memory	1 GB DDR3 204-pin SO-DIMM memory pre-installed	1 GB DDR2 200-pin SO-DIMM memory pre-installed	1 GB DDR2 200-pin SO-DIMM memory pre-installed
	Hard Drive	1 x 2.5" SATA HDD Space	1 x 2.5" SATA HDD Space	1 x 2.5" SATA HDD Space
I/O Interfaces	CF Card/CFast	1	1	1
	USB 2.0	4	4	4
	Ethernet	2 x Realtek 8111E PCIe GbE	2 x Realtek 8111E PCIe GbE	2 x Realtek 8111E PCIe GbE
	RS-232	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	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	1 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)	VGA: Up to 1920 x 1200@60Hz
	Audio	1 x Speaker out	1 x Speaker out	1 x Speaker out
	Wireless	1 x 802.11b/g/n	1 x 802.11b/g/n	N/A
Power	Expansions	1 x PCIe Mini card slot (reserved for Wi-Fi)	1 x PCIe Mini card slot (reserved for Wi-Fi)	1 x PCIe Mini card slot
	Power Input	DC Jack: 12 V DC in 9 V-36 V (WD Model)	DC Jack: 12 V DC in 9 V-36 V (WD Model)	DC Jack: 12 V DC in 9 V-36 V (WD Model)
Reliability	Power Consumption	12V@1.79A (Intel® Atom™ D525 1.8 GHz with DDR3 1 GB)	12 V@1.25 A (Intel® Atom™ N270 1.6 GHz with DDR2 1 GB)	12 V@1.25 A (Intel® Atom™ N270 1.6 GHz with DDR2 1 GB)
	Mounting	DIN mount, VESA 75 mount, wall mount	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	-20°C ~ 70°C with CompactFlash®/SSD
	Operating Shock	Half-sine wave 3G, 11ms 3 shocks per axis	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	MIL-STD-810F 514.5C-2
	Weight (Net/Gross)	2.1 kg/3.9 kg	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.

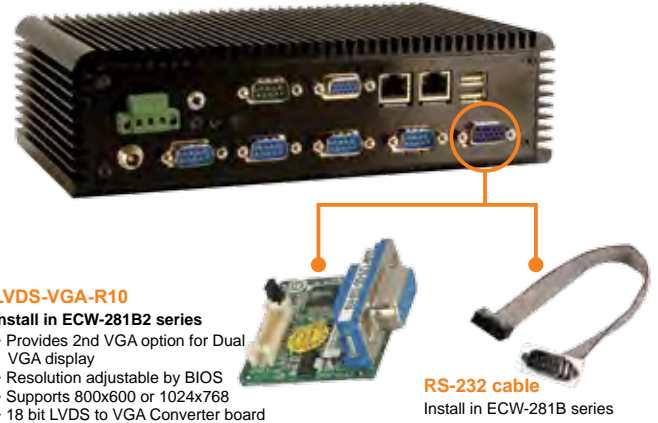
- Industrial Computing Solutions
- Video Capture Solutions
- Embedded Computing Solutions
- ORing Network Communication
- Power Supply/Peripherals
- Panel Solutions Introduction

## Storage & Expansions



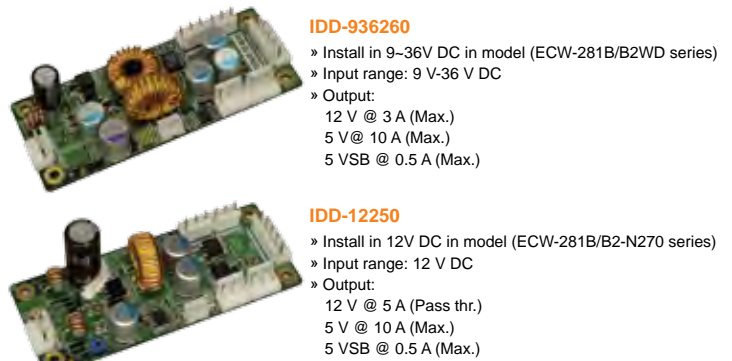
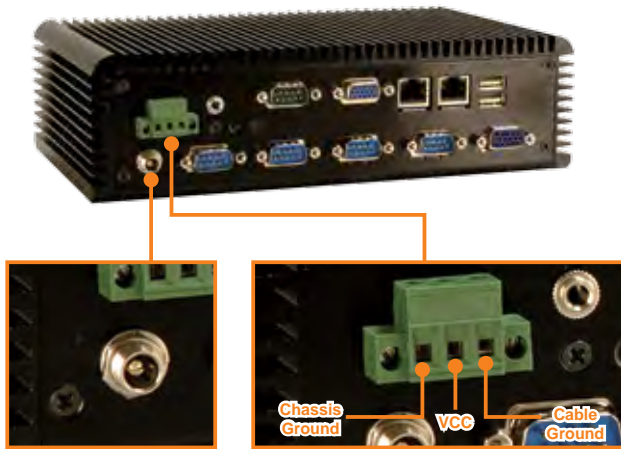
## Dual Display

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.

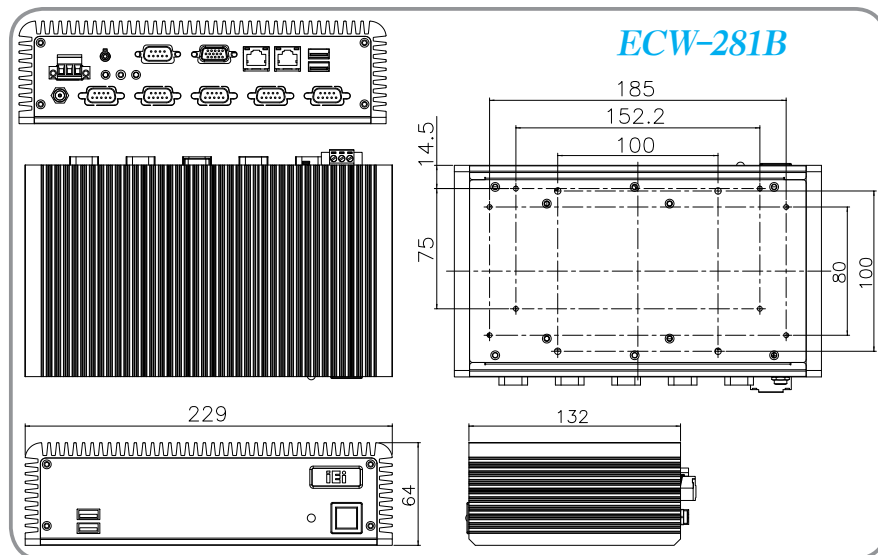


## Extended Voltage Input

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.



## 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 (with PSE/ErP Certified) (Part No.: 63040-010060-040-RS)
- 1 x Power cord (optional for WD model)
- 1 x Wireless antenna (for wireless model)
- 1 x One Key Recovery CD



## Extended Temperature

The ECW-281B series with Intel® Atom™ N270 single-core processor is a fanless system which supports a wide range of temperatures 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 WAFER-PV-D5252	WAFER-945GSE-N270 WAFER-PV-D5252	WAFER-945GSE-N270 WAFER-PV-D5252	WAFER-945GSE-N270 WAFER-PV-D5252	WAFER-945GSE-N270W2
COM port	6	5	6	5	6
VGA display	1	2	1	2	1
Power input	12 V DC in	12 V DC in	9 V~36 V DC in	9 V~36 V DC in	12 V DC in
Adapter	60W	60W	N/A	N/A	N/A

### Ordering information

D525	12 V DC 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 1 GB DDR3 memory, 12 V DC 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 TELEC Certified 802.11b/g/n wireless, with 1 GB DDR3 memory, 12 V DC 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 1 GB DDR3 memory, 12 V DC 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 TELEC Certified 802.11b/g/n wireless, with 1 GB DDR3 memory, 12 V DC in, 60W power adapter with ErP and PSE certificates, black, RoHS
	9 V~36 V DC 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 1 GB DDR3 memory, 9 V-36 V DC 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 TELEC Certified 802.11b/g/n wireless, with 1 GB DDR3 memory, 9 V-36 V DC 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 1 GB DDR3 memory, 9 V-36 V DC 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 TELEC Certified 802.11b/g/n wireless, with 1 GB DDR3 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
N270	12 V DC input	ECW-281B-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, built-in 1 GB DDR2 memory, 12 V DC in, 60W power adapter with ErP and PSE certificates, black, RoHS
		ECW-281BW-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, built-in TELEC Certified 802.11b/g/n wireless, with 1 GB DDR2 memory, 12 V DC in, 60W power adapter with ErP and PSE certificates, black, RoHS
		ECW-281B2-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, dual VGA, built-in 1 GB DDR2 memory, 12 V DC in, with 60W power adapter with ErP and PSE certificates, black, RoHS
		ECW-281B2W-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, dual VGA, built-in TELEC Certified 802.11b/g/n wireless, with 1 GB DDR2 memory, 12 V DC in, 60W adapter with ErP and PSE certificates, black, RoHS
	9 V~36 V DC input	ECW-281B-WT-R30/N270/1GB	Extend temperature fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, built-in 1 GB DDR2 memory, 12 V DC in, w/o power adapter, -20°C ~ 70°C degree, black, RoHS
		ECW-281BWD-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, built-in 1 GB DDR2 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
		ECW-281BWDW-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, built-in TELEC Certified 802.11b/g/n wireless, with 1 GB DDR2 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
		ECW-281B2WD-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, dual VGA, built-in 1 GB DDR2 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS
ECW-281B2WDW-R30/N270/1GB	Fanless embedded system with Intel® Atom™ N270 1.6 GHz CPU, 945GSE, dual VGA, built-in TELEC Certified 802.11b/g/n wireless, with 1 GB DDR2 memory, 9 V-36 V DC in, w/o power adapter, black, RoHS		
32205-003200-100-RS	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		

### Embedded OS

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