FANLESS MINI COMPUTER

BCO-500-TWL

Semi-Rugged Fanless Mini Computer with Intel® N-Series Processor, 1x DP, 1x HDMI, 3x USB-A, 1x USB-C, 2x LAN



Features

- Supports Intel® N-Series Processors
- 1x 262-pin DDR5 4800 MT/s SO-DIMM. Max. 16GB (Non-ECC)
- Dual Independent Display by 1x Display Port, 1x HDMI
- 2x Intel® I226-V 2.5GbE LAN
- 1x M.2 M-Key for NVMe SSD, 1x M.2 B-Key for 4G LTE/5G, 1x M.2 E-Key for Wi-Fi
- 2x COM, 3x USB-A, 1x USB-C, 1x Dual Nano SIM Socket
- 9 to 36VDC wide-range power input supporting AT/ATX mode
- Wide operating temperature: -10°C to 50°C
- TPM 2.0 supported
- CE, FCC Class B, UL 61010, UKCA, ICES

Specifications

System	
Processor	
Standard • Intel® Processor N97, 6MB Cache, up to 3.60 GHz, 4-Core Processor	
Project Based • Intel® Processor N150, 6MB Cache, up to 3.60 GHz, 4-Core Processor • Intel® Atom® x7433RE Processor 6MB Cache, up to 3.40 GHz, 4 Core Processor	
System Chipset	SoC integrated
LAN Chipset	GbE1: Intel i226V 2.5GbE LAN GbE2: Intel i226V 2.5GbE LAN
Audio Codec	Realtek ALC888
System Memory	1x 262-Pin DDR5 4800 MT/s SO-DIMM. Max. 16GB (Non-ECC)
BIOS	AMI uEFI BIOS
Watchdog	Software Programmable Supports 1~255 sec. System Reset
TPM	TPM 2.0

Display	
Display Port	1x DP 1.4, up to 3840 x 2160 @ 60Hz
HDMI	1x HDMI 2.1, up to 3840 x 2160 @ 60Hz
Multiple Display	2x Independent Displays

Storage	
M.2	1x M.2 M-Key (2280), 128GB NVMe SSD (Default)

Expansion	
M.2	1x M.2 B-Key (2242/3042/3052), PCIe/USB 3.0, supports 4G LTE/5G (shared with SATA connector) 1x M.2 E-Key (2230), PCIe + USB 2.0, supports Wi-Fi

I/O	
DisplayPort	1x DisplayPort
HDMI	1x HDMI
COM	2x DB9 (COM1: RS-232/422/485, COM2: RS-232), Optional Side I/O (Shared with USB 2.0)
USB	2x USB 3.2 Gen 2 Type-A 1x USB 3.2 Gen 1 Type-A 1x USB 3.2 Gen 1 Type-C 2x USB 2.0 Type-A, Optional Side I/O (Shared with COM)
LAN	2x 2.5GbE RJ45
Audio	1x Audio out (Default) 1x Speaker out (Optional), 5W Amplifier Support
SIM	1x Dual Nano SIM Slot
DC-in Jack	1x DC IN Power Jack with Lock
Others	6x Antenna Holes 1x Power button 1x Grounding Screw

Operating System	
Windows	Windows 10 / Windows 11 IoT Enterprise LTSC (64-bit)
Linux	Ubuntu 22.04 / 24.04 LTS Linux 5.x / 6.x

Power	
Power Adapter	AC/DC 12V/5A, 60W
Power Mode	AT, ATX (Default ATX)
Power Supply Voltage	9~36VDC
Power Connector	DC in Power Jack with Lock
Power Protection	OVP (Over Voltage Protection) OCP (Over Current Protection) Reverse Protection DC Surge Protection

Environment	
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 70°C
Relative Humidity	10% to 95% (non-condensing)
Certification	CE, FCC Class B, UL 61010, UKCA, ICES
Vibration	With SSD: 5 Grms (5 - 500 Hz, 0.5 hr/axis)
Shock	With SSD: 50G half-sin 11ms
ESD	4K / 8K (Option 8K/15K)

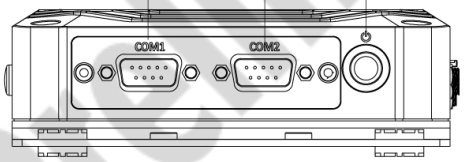
Physical	
Dimensions	225 (W) x 130 (H) x 41 (D) mm
Weights	1.2 kg
Construction	Aluminum Alloy
Mounting Options	Wall Mounting VESA Mounting DIN-Rail Mounting (Optional)

* All specifications and photos are subject to change without notice.

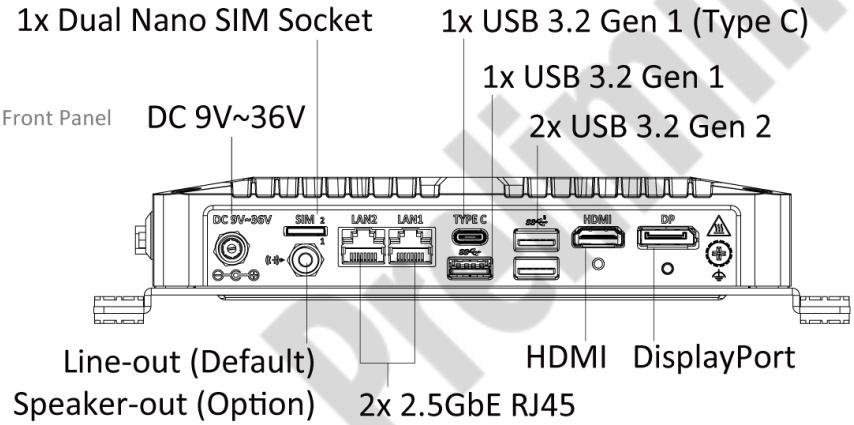
Preliminary

External I/O Mechanical Layout

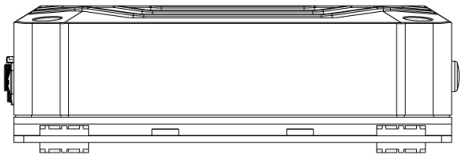
Side View



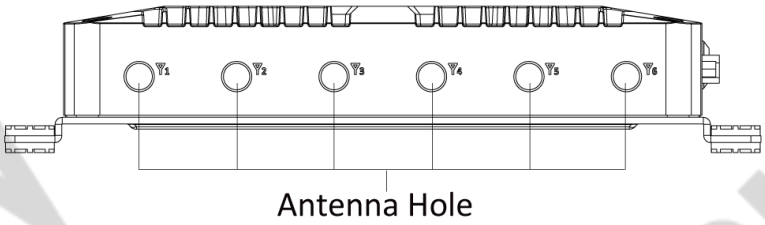
Front Panel



Side View

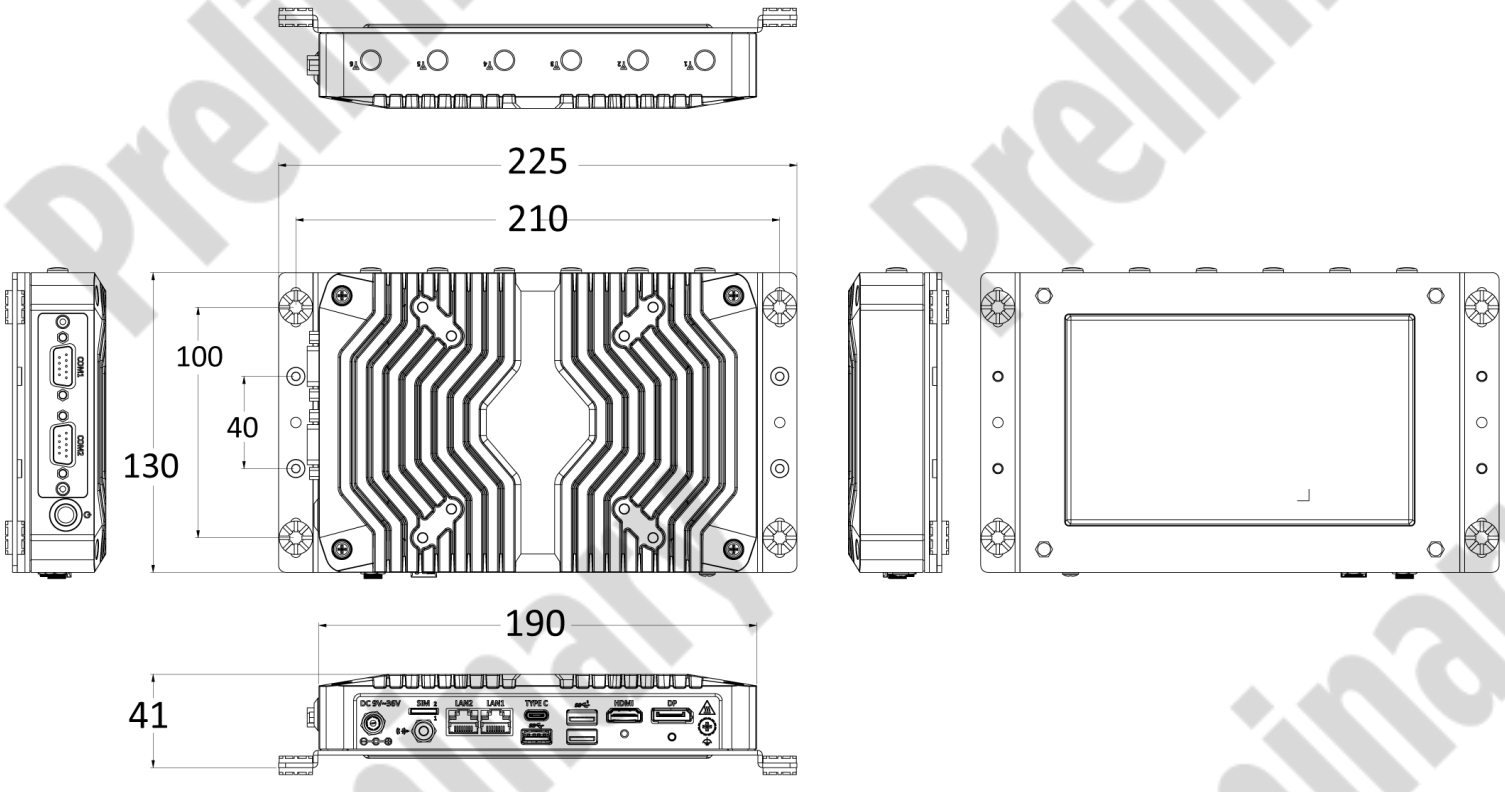


Rear Panel



Dimension

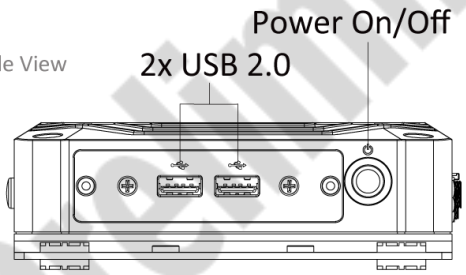
Unit: mm



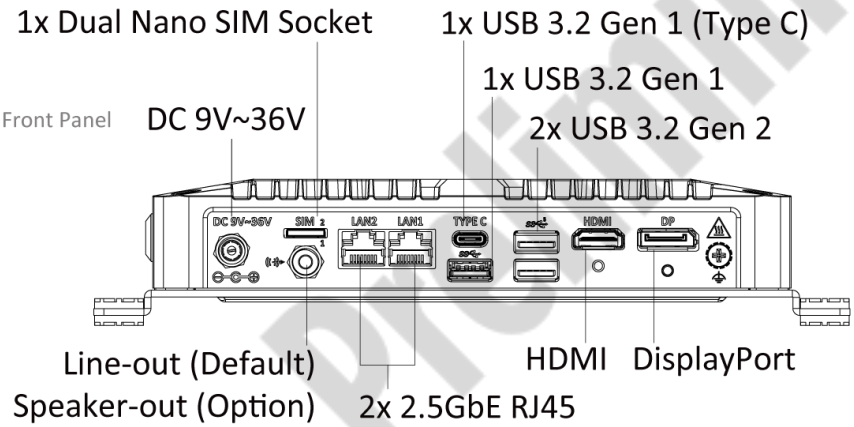
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External I/O Mechanical Layout

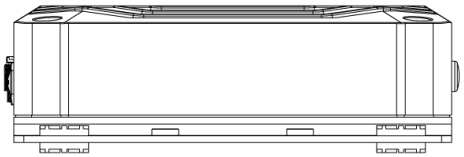
Side View



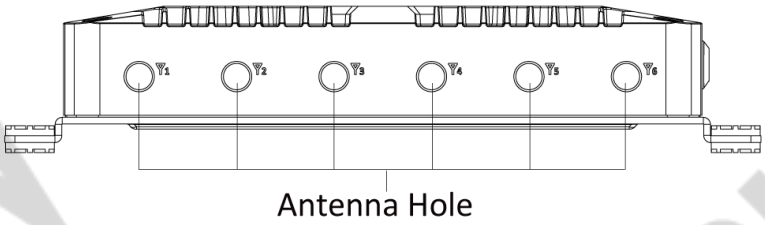
Front Panel



Side View

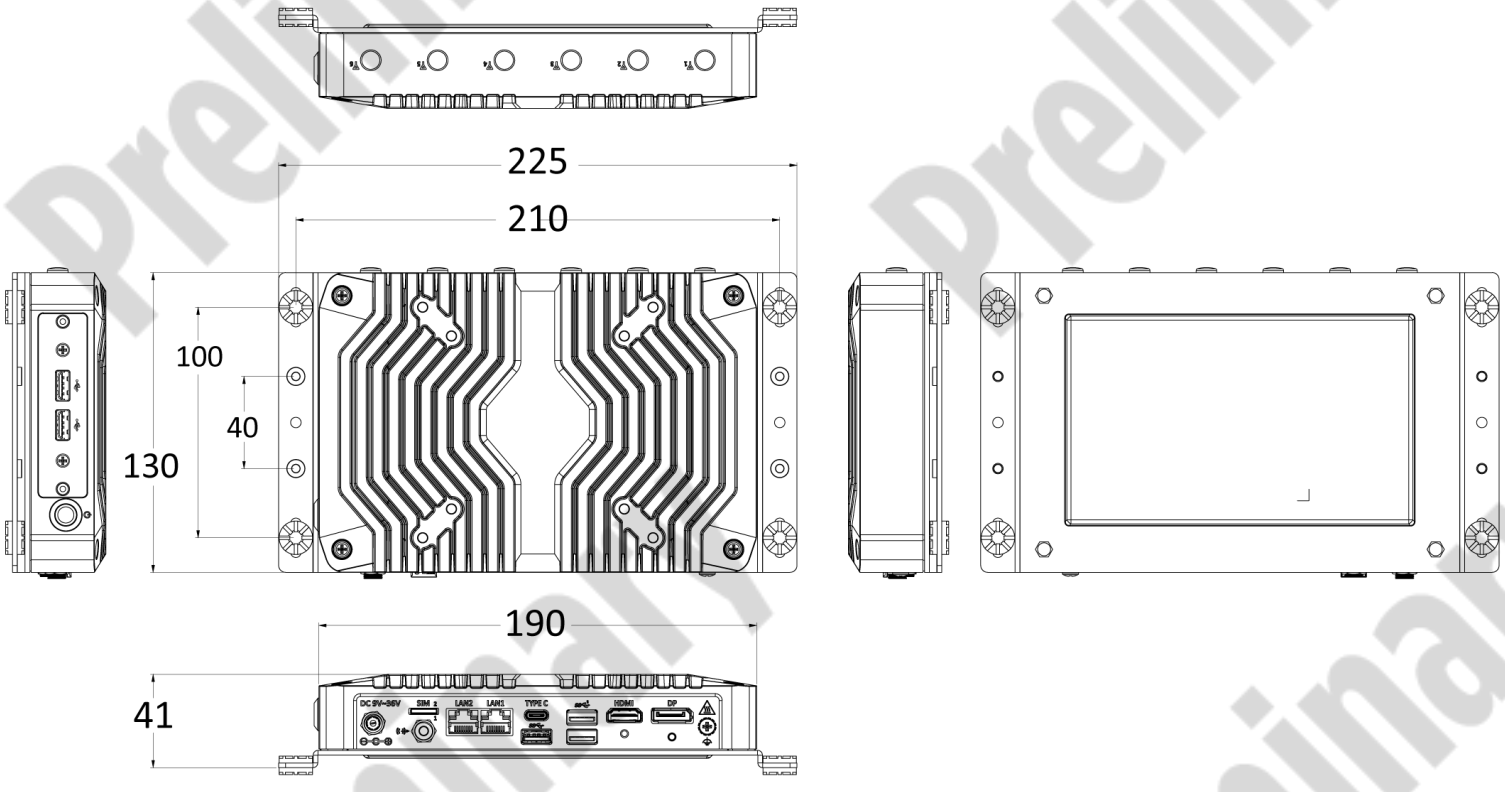


Rear Panel



Dimension

Unit: mm



Preliminary

Compliances and Standards

Shock	With SSD: 50G half-sin 11ms IEC60068-2-27:2008 Designed to comply with MIL-STD-810H Method 516.8 Procedure I
Vibration	With SSD: 5 Grms (5 - 500 Hz, 0.5 hr/axis) IEC60068-2-64:2008 Designed to comply with MIL-STD-810H Method 514.7 Procedure I
Safety	UL Safety: UL61010 CAN/CSA-C22.2 No. 61010-1-12, 3rd Ed. CSA C22.2 No. 61010-2-201:18, 2nd Ed.

Available Models

Model No.	Description
BCO-500-TWL-P	Semi-Rugged Fanless Mini Computer with Intel® N-Series Processors, 1x DP, 1x HDMI, 3x USB-A, 1x USB-C, 2x LAN, w/ Power Adapter
BCO-500-TWL	Semi-Rugged Fanless Mini Computer with Intel® N-Series Processors, 1x DP, 1x HDMI, 3x USB-A, 1x USB-C, 2x LAN

Optional Accessories

Model No.	Description
1-E09A06012	AC-DC Power Adapter 12V 5A 60W/Input 100-240V
1-TPCD00001	Power Cord, 3-pin UK Type, 180cm
1-TPCD00002	Power Cord, European Type, 180cm
1-TPCD00003	Power Cord, Japan Type, 180cm
1-TPCD00005	Power Cord, 3-pin US Type, 180cm
1-TPWR00197	3P Terminal Block_Female(Molding) To DC Plug 5.5x2.5 With Lock L=100mm
3-USB20K01S10	Dual USB 2.0 Cable Module Kit
3-2COM0K02S10	COM Cable Module Kit

Packing List

1x BCO-500-TWL Series Fanless Mini Computer
1x Adapter 60W 12V 5A (selected models only)

US Exports And Tariff Codes

ECCN	5A992.c
HTS	8471.50.0150
Schedule B	84.71

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