

# TPC-312 EHL TPC-315 EHL TPC-317 EHL

## Elkhart Lake Thin-Client Terminal with Intel® Atom™/ Celeron® Processor



### Features

- Intel® Elkhart Lake (EHL) Atom™ x6425E 2.00 GHz quad-core / Celeron® J6412 2.00 GHz quad-core processor
- True-flat touchscreen with 5-wire resistive touch control and IP66-rated front panel
- Wide operating temperature range (-20 ~ 60 °C/-4 ~ 140 °F)
- Front-facing LED indicators to show operating status
- Built-in Advantech iDoor technology, SSD/HDD bay and VESA mount
- Compact, fanless system with aluminum alloy front bezel and chassis grounding protection

### Introduction



TPC-3xx EHL thin-client terminal is a industrial panel PC model equipped with TFT LCD, low-power Intel® Atom™ x6425E 2.00 GHz quad-core / Celeron® J6412 2.00 GHz quad-core processor. TPC-3xx EHL delivers high-performance computing in a compact, fanless system. For enhanced durability to satisfy diverse industrial automation applications, TPC-3xx EHL supports a wide operating temperature range (-20 ~ 60 °C/-4 ~ 140 °F) and features a true-flat 5-wire resistive touchscreen with IP66-rated front panel, die-cast aluminum alloy front bezel, and built-in 100 x 100 VESA mount. Moreover, with the provision of one full-size mini PCIe slot, which supports USB/PCIe interface for Advantech's iDoor technology, TPC-3xx EHL can be easily expanded to provide additional I/O ports, isolated digital I/O, fieldbus protocols, MRAM, and 5G/GPS/GPRS/Wi-Fi communication capabilities.

### Specifications

#### General

- BIOS** AMI UEFI
- Certification** BSMI, CCC, CE, FCC Class A, UL
- Cooling System** Fanless design
- Dimensions (W x H x D)**
  - 12.1": 311.8 x 238 x 67 mm (12.28 x 9.37 x 2.64 in)
  - 15": 383.2 x 307.3 x 66.5 mm (15.09 x 12.10 x 2.62 in)
  - 17": 410.4 x 324.4 x 68 mm (16.1 x 12.7 x 2.67 in)
- Enclosure**
  - Front bezel: Die cast aluminum alloy
  - Back housing: Die cast aluminum alloy
- Mount Options** VESA mount, Desktop/wall/panel
- OS Support** Windows 10 Enterprise LTSC, Advantech Linux, Android
- Security** TPM 2.0 (built-in)
- Power Consumption**
  - 12.1": 39.01W (Typical)
  - 15": 30.16W (Typical)
  - 17": 35.81W (Typical)
- Power Input** 24 V<sub>DC</sub> ± 20%
- Watchdog Timer** 15 ~ 255 sec (system)
- Weight (Net)**
  - 12.1": 4.2kg (9.26lbs)
  - 15": 5.15kg (11.35lbs)
  - 17": 6.1kg (13.45lbs)

#### System Hardware

- CPU** Intel® Elkhart Lake Atom™ x6425E 2.00 GHz, quad core  
Celeron® J6412 2.00 GHz, quad core
- Memory** 1 x SODIMM DDR4 (up to 32 GB)
- LAN** 2 x Intel® I226; 2.5GbE
- Expansion Slots**
  - 1 x Full-size mini PCIe (PCIe/USB2.0)
  - 1 x M.2 AE key 2230 (PCIe/USB2.0)
- Storage**
  - 1 x M.2 B key 2242/ 2280 (SATA/USB2.0)
  - 3042/ 3052 (USB3.0 for 5G LTE optional)
  - 1 x 2.5" SSD/ HDD (SATA, Max. 7mm)

#### I/O

- 1 x RS-232
- 1 x RS-232/422/485
- 3 x USB 3.2
- 1 x USB 2.0
- 1 x iDoor slot
- 1 x Displayport (Video output)
- 1 x Audio line out/ mic in
- 1 x Remote Power Button

#### LCD

|                             | TPC-312 EHL     | TPC-315 EHL     | TPC-317 EHL      |
|-----------------------------|-----------------|-----------------|------------------|
| <b>Display Type</b>         | XGA TFT LED LCD | XGA TFT LED LCD | SXGA TFT LED LCD |
| <b>Display Size</b>         | 12.1" (4:3)     | 15" (4:3)       | 17" (4:3)        |
| <b>Max. Resolution</b>      | 1024 x 768      | 1024 x 768      | 1280 x 1024      |
| <b>Max. Colors</b>          | 16.2M           | 16.2M           | 16.7M            |
| <b>Luminance cd/m²</b>      | 600             | 300             | 300              |
| <b>Viewing Angle (H/V°)</b> | 178°/178°       | 176°/176°       | 160°/140°        |
| <b>Backlight Life</b>       | 50,000 hr       | 70,000hrs       | 50,000 hrs       |
| <b>Contrast Ratio</b>       | 1000:1          | 2000:1          | 800:1            |

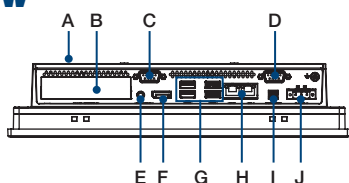
#### Touchscreen

- Lifespan** 36 million touches at a single point
- Light Transmission** Above 75%
- Resolution** Linearity
- Type** 5-wire resistive: TPC-312/TPC-315/TPC-317

#### Environment

- Relative Humidity**
  - Operating, 95% RH @ 40° C, Non-Condensing
  - Non-Operating, 95% RH @ 60° C, Non-Condensing
- Ingress Protection** IP66-rated front panel
- Operating Temperature** -20 ~ 60 °C (-4 ~ 140 °F) : TPC-312/TPC-315/TPC-317
- Storage Temperature** -30 ~ 70 °C (-22 ~ 158 °F)
- Vibration Protection** With SSD: 1 Grms (5 ~ 500 Hz) (operating, random vibration)

## Rear View



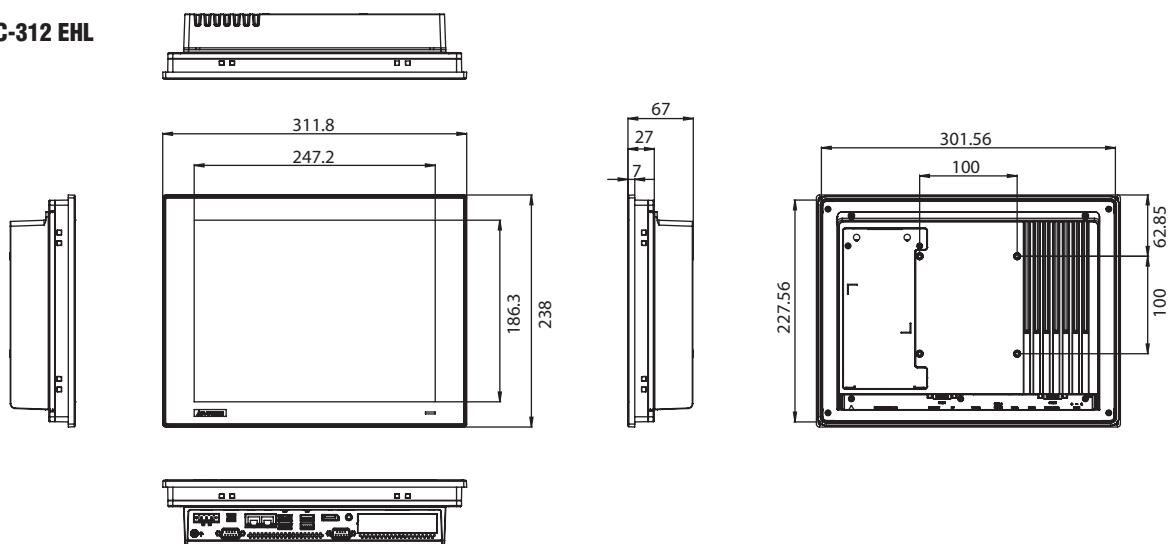
A. Default HDD/SSD Bay  
B. iDoor slot  
C. RS-232/422/485  
D. RS-232  
E. Audio line out/ mic in

F. Display Port  
G. USB 3.2/2.0  
H. LAN  
I. Remote Power Button  
J. Power Receptor

## Dimensions

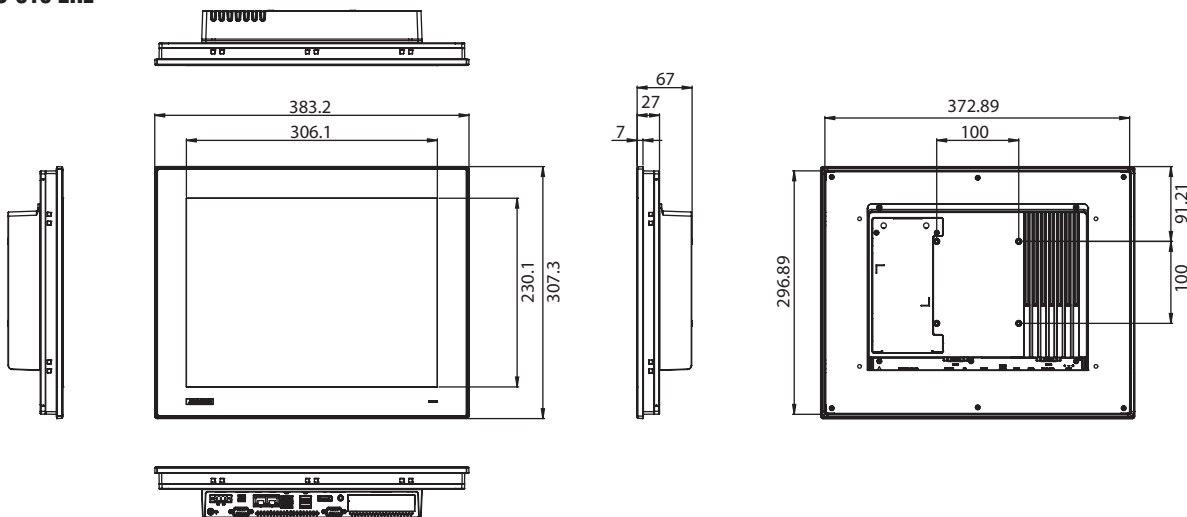
Unit: mm

### TPC-312 EHL



TPC-312 EHL Panel Cutout Dimensions: 303 x 229 mm (11.93 x 9.02 in)

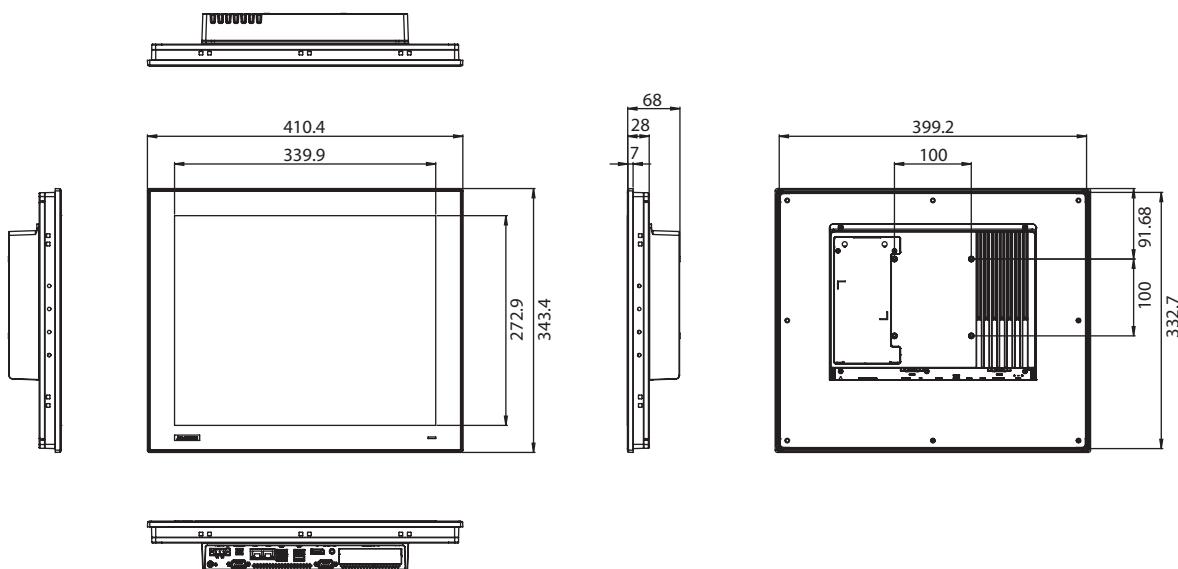
### TPC-315 EHL



## Dimensions

Unit: mm

### TPC-317 EHL



**TPC-317 EHL Panel Cutout Dimensions: 401.3 x 334.8 (15.8" x 13.18")**

## Ordering Information

### 8G DRAM

- **TPC-312-RE23A** 12.1" XGA panel PC with Intel® Atom™ x6425E 2.00 GHz quad-core CPU, 8 GB DDR4 SDRAM (-20 ~ 60 °C)
- **TPC-312-RJ23A** 12.1" XGA panel PC with Intel® Celeron® J6412 2.00 GHz quad-core CPU, 8 GB DDR4 SDRAM (-10 ~ 50 °C)
- **TPC-315-RE23A** 15" XGA panel PC with Intel® Atom™ x6425E 2.00 GHz quad-core CPU, 8 GB DDR4 SDRAM (-20 ~ 60 °C)
- **TPC-315-RJ23A** 15" XGA panel PC with Intel® Celeron® J6412 2.00 GHz quad-core CPU, 8 GB DDR4 SDRAM (-10 ~ 50 °C)
- **TPC-317-RE23A** 17" SXGA panel PC with Intel® Atom™ x6425E 2.00 GHz quad-core CPU, 8 GB DDR4 SDRAM (-20 ~ 60 °C)
- **TPC-317-RJ23A** 17" SXGA panel PC with Intel® Celeron® J6412 2.00 GHz quad-core CPU, 8 GB DDR4 SDRAM (-10 ~ 50 °C)

## Optional Accessories

- **PWR-247-DE** 60W 24 V<sub>DC</sub> /2.5A power supply
- **96PSA-A120W24T2-3** 120W 24V<sub>DC</sub> power supply
- **1702002600-31** Power cable (US) 1.8 M
- **1702002605** Power cable (EU) 1.8 M
- **1702031801** Power cable (UK) 1.8 M
- **1700000596-11** Power cable (China/Australia) 1.8 M
- **ARES-12240-AR01100** Wall Mount, support 2~10kg, 75/100mm
- **ARES-12250-L101000** WallMount, max.support 25kg, 75/100mm
- **ARES-2423S-A770L01** TableStand, Black, 21.5"~34", 4~12kg, 100x100 75x75
- **ARES-5222A-ATW2000** WallArm, ≤32", support 2~10kg, wo/KBtray, 75/100mm

## Embedded OS

- **20704WX1ES0008** Img WIN10 LTSC TPC-3xx(W) Entry
- **20701WLE1S0018** Img W11LTSC x64 v7.01.029 TPC-3xx(W)-x2xxx Entry
- **20701U22DS0004** Image AdvLinuxTu-IOTG\_x64 V4.0.6 for TTPC series

## iDoor Modules

- **PCM-24D2R2-BE** Isolated RS-232, DB9 x 2, (USB type)
- **PCM-24D2R4-BE** Isolated RS-422/485, DB9 x 2, (USB type)
- **PCM-24D4R2-BE** Non-Isolated RS-232, DB37 x 1 (USB Type)
- **PCM-24D4R4-BE** Non-Isolated RS-422/485, DB37 x 1 (USB Type)
- **PCM-27D24DI-AE** Digital I/O, 16 DI / 8 DO, Isolation, DB37 x 1
- **PCM-24R2GL-AE** 2 Port Giga LAN Intel i350 PCIe mini card
- **PCM-24R2PE-AE** Intel i350, GbE, PoE IEEE 802.3af, PD, RJ45 x 2
- **PCM-24U2U3-BE** PCM-24U2U3, 2-Port USB 3.0, mPCIe
- **PCM-24S2WF-CE** 802.11 a/b/g/n/ac 2T2R w/BT4.1, Intel AC9260
- **PCM-23U1DG-CE** Internal locked USB Slot for USB Dongle, mPCIe
- **PCM-26D2CA-BE** SJA1000 CANBus, Lattice, CANOpen, DB9 x 2

## Packing List

| Item            | Part No.      | Description                              | Qty                                         |
|-----------------|---------------|------------------------------------------|---------------------------------------------|
| Grounding cable | 1703011001-11 | A Cable G-TEM 4.3 100CM C=GR/Y           | 1pcs                                        |
| Plug-In Block   | 1652007930-01 | Plug-In Block 1x3P/5.08mm/PA66/F/VA      | 1pcs                                        |
| Remote Plug 2P  | 1652006941-01 | Plug 2P 3.5mm 180D(F) MC420-35002ZY      | 1pcs                                        |
| Warranty        | 2190000902    | CARDBOARD-WARRANTY REV. A2               | 1pcs                                        |
| VESA Screw      | 1930005204    | Screw M4x10L R/S DH=6.8x2.50 + ST ZBK PL | 4pcs                                        |
| HDD Screw       | 1930001361    | Screw M3x4L S/S D=5 H=1.2 (2+) ST Ni NK  | 4pcs                                        |
| Copper Pillars  | 1910003084-01 | POST F=M3*4L M=M3*4L B=5.02 H=6.5 CU     | 1pcs                                        |
| Clamp           | 1962055040    | CLAMPER PPC-55 M1632611 A2               | 8pcs : TPC-312<br>10pcs : TPC-315 / TPC-317 |
| Clamp Screw     | 1935042520    | Screw M4x25L R/S D=8.3 H=2.5 (2+) ST BZn | 8pcs : TPC-312<br>10pcs : TPC-315 / TPC-317 |
| China RoHS      | 202KAKMC00    | China rohs for AKMC model name 1st ed    | 1pcs                                        |

Please note: If some optional modules are offered with the system, additional system certificates may be required in certain regions/countries.  
Please contact Advantech for certificate compliance.