Titan-AL Series

Titan-15WP/21WP/24W-E3950

Rugged Panel Computer

User's Manual

Manual Rev.: 1.1

Revision Date: December 6, 2019

Part No: 50-1Z299-1010

Leading **EDGE COMPUTING**

Revision History

Revision	Release Date	Description of Change(s)
1.0	2019-06-18	Initial Release
1.1	2019-12-06	Update product name, specifications, mechanical drawings; add pipe version installation instructions; correct driver installation and BIOS settings

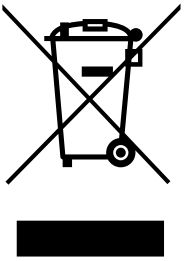
Preface

Disclaimer

The information in this document is subject to change without prior notice in order to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Environmental Responsibility



ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for ADLINK. We have enforced measures to ensure that our products, manufacturing processes, components, and raw materials have as little impact on the environment as possible. When products are at their end of life, our customers are encouraged to dispose of them in accordance with the product disposal and/or recovery programs prescribed by their nation or company.

Battery Labels (for products with battery)

California Proposition 65 Warning

WARNING: This product can expose you to chemicals including acrylamide, arsenic, benzene, cadmium, Tris(1,3-dichloro-2-propyl) phosphate (TDCPP), 1,4-Dioxane, formaldehyde, lead, DEHP, styrene, DINP, BBP, PVC, and vinyl materials, which are known to the State of California to cause cancer, and acrylamide, benzene, cadmium, lead, mercury, phthalates, toluene, DEHP, DIDP, DnHP, DBP, BBP, PVC, and vinyl materials, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Trademarks

Product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.

Additional information, aids, and tips that help users perform tasks.

Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.
Informations destinées à prévenir les blessures corporelles mineures, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécution d'une tâche.

Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.
Informations destinées à prévenir les blessures corporelles graves, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécution d'une tâche spécifique.

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1 Introduction

The IP69K-rated Titan-AL Series of panel computers, based on the Intel Atom® x7-E3950 processor, is designed for use in monitoring and controlling production processes in industries obligated to meet high hygiene standards. The Titan series features power-efficient computing and up to 1080p high contrast display to present control schematics and graphical diagrams to systems operators. Encased in an IP69K, 316L stainless steel housing, the Titan series can withstand high pressure hot water cleaning, oxidative damage or other chemical reactions and is engineered to prevent water from remaining on the surface after cleaning with its flush front panel surface and the sleek rear chassis design. The pipe mounting option helps keep the workplace clean and neat by providing protection and allowing organization of cables. The Titan Panel Computer series is an ideal fit for food and beverage, pharmaceutical, automotive, and steel and metal industries.

1.1 Features

- Intel Atom® x7-E3950 quad core processors
- Capacitive touch screen
- I/O:
  - 2x USB 2.0 (M12, VESA mount version)

    or
  - 1x USB 3.0, 1x USB 2.0 (Type A, pipe mount version)
  - 2x GbE ports
  - 2x COM ports (RS-232/422/485)
  - 1x DisplayPort (pipe mount model only)
- Built-in ADLINK SEMA management solution
- IP69K-rated fully sealed moisture- and particulate-proof housing (including I/O)
- Corrosion-resistant stainless steel SUS 316L (V4A) housing
- VESA Mount and Pipe Mount versions available

1.2 Packing List

Before unpacking, check the shipping carton for any damage. If the shipping carton and/or contents are damaged, inform your dealer immediately. Retain the shipping carton and packing materials for inspection. Obtain authorization from your dealer before returning any product to ADLINK. Ensure that the following items are included in the package.

VESA Mount Version

- Titan-AL VESA mount unit
- Screw pack for VESA mounting
- Waterproof M12 cable kit
  - 1x COM cable (DB-9)
  - 1x GbE cable (RJ-45)
  - 1x USB 2.0 Y-splitter to 2x Type A
  - 1x AC power cable (US or EU version)
  - 2x M12 waterproof caps

Pipe Mount Version

- Titan-AL pipe mount unit
- Rear cover seal kit
  - spacers and screw pack
- Base mount seal kit
  - rubber seal, mounting bracket w/ adhesive, screw pack

2 Specifications

2.1 General Specifications

	Titan-15W-E3950	Titan-21W-E3950	Titan-23W-E3950
Display Size	15.6"	21.5"	23.8"
Resolution	1366 x 768	1920 x 1080	1920 x 1080
Brightness (w/o touch)	400 nits		
Contrast Ratio	500:1	1100:1	1000:1
Viewing Angle (U/D/R/L)	80°/80°/85°/85°	89°/89°/89°/89°	89°/89°/89°/89°
Touch screen	Projective capacitive sensor		
Main System			
Processor	Intel® Atom™ E3950		
Memory	4GB DDR3L default (up to 8GB)		
Storage	1x 2.5" SATA 128GB (default)		
Operating System	Windows 10 IoT Enterprise		
I/O			
IP69K-rated I/O (M12 connectors, VESA Mount version)	▶ 2x USB 2.0, M12 ▶ 2x GbE ,M12 ▶ 2x COM ports, RS-232/422/485 ▶ 1x AC power input		
Integrated I/O ports (Pipe Mount version)	▶ 1x USB 3.0, 1x USB 2.0, Type A ▶ 2x GbE, RJ-45 ▶ 2x COM ports, RS-232/422/485 ▶ 1x DisplayPort (including audio support) ▶ 1x AC power input		
WiFi and Bluetooth (optional)	▶ 802.11 a/b/g/n/ac ▶ Bluetooth 4.0		
Mechanical			
Construction	Stainless steel SUS 316 (V4A)		
Weight	8.0kg	12.0kg	12.8kg
Dimensions (HxWxD)	419 x 268 x 59 mm	561 x 353 x 67 mm	610 x 379 x 67 mm
Mounting Options	▶ VESA mount, MIS-D 75/100mm ▶ Pipe mount		

	Titan-15W-E3950	Titan-21W-E3950	Titan-23W-E3950
Power			
Input Requirement	110-240 VAC, 50-60Hz, 1.9A (internal 100W AC/DC PSU)		
Power Consumption	35W	40W	48W
Environmental			
Temperature, Operating	0°C to 45°C		
Temperature, Storage	-20°C to 60°C		
Relative Humidity	10% to 90% @ 40°C (non-condensing)		
Vibration, Operating	1G random 5 to 500Hz		
Shock, Operating	10G acceleration part to part, 11ms		
IP Protection	IP69K-rated		
Certifications & Compliance	CE/FCC EN 55032/24, Part 15B EN61000-6-2/-4 (EN55011) UL/CB (62368) + CB (60950)		

VESA and Pipe Mount Model Names

Each size Titan-AL Series panel computer is available in VESA and Pipe Mount versions. The full model names are as below.

Mount Type	15.6"	21.5"	23.8"
VESA Mount	Titan-15WP-VESA-E3950	Titan-21WP-VESA-E3950	Titan-24WP-VESA-E3950
Pipe Mount	Titan-15WP-PIPE-E3950	Titan-21WP-PIPE-E3950	Titan-24WP-PIPE-E3950

2.2 Mechanical Drawings

All dimensions shown are in millimeters (mm) unless otherwise stated.

2.2.1 Titan-15WP-VESA/15WP-PIPE-E3950

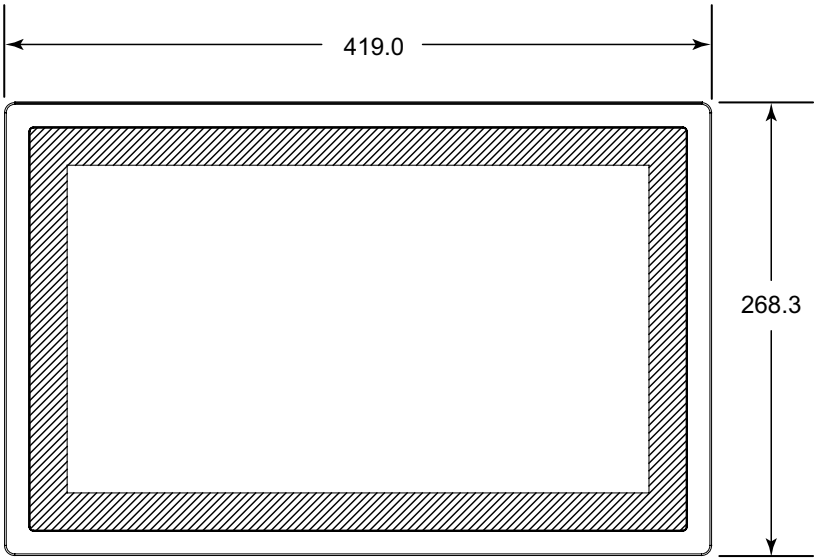


Figure 2-1: Titan-15WP Front View

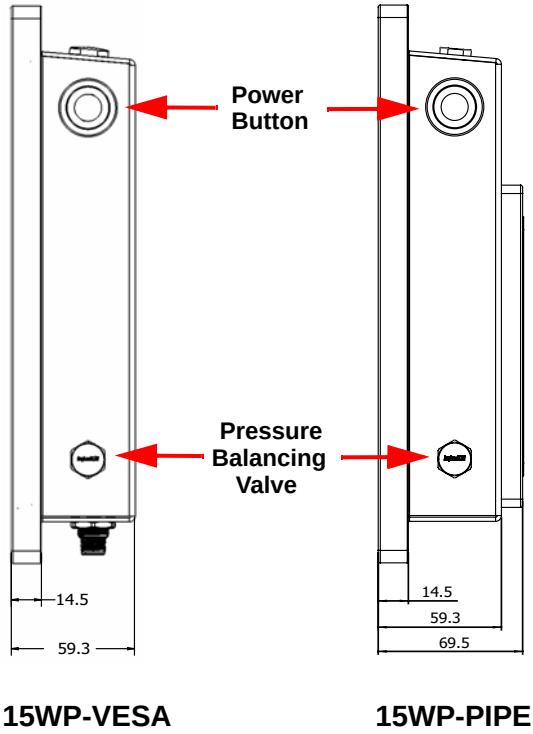


Figure 2-2: Titan-15WP Side View (Right)

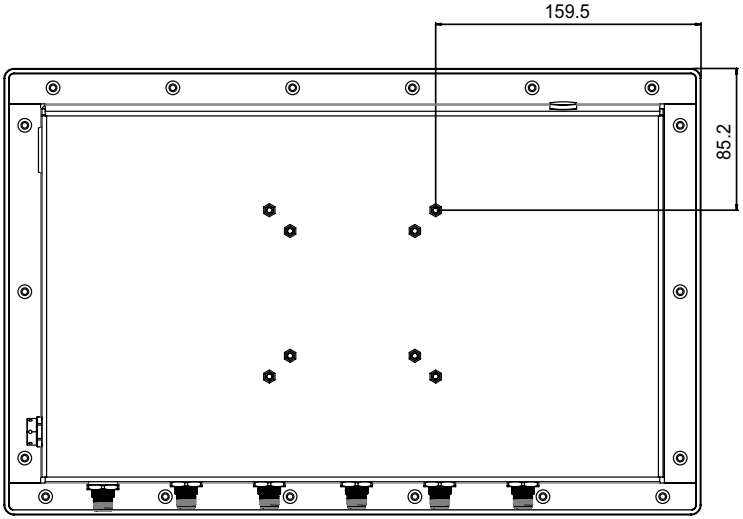


Figure 2-3: Titan-15WP-VESA Rear View

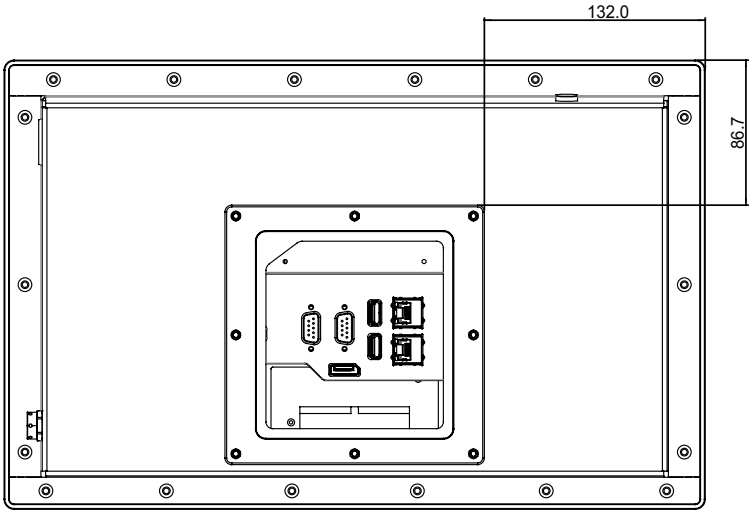


Figure 2-4: Titan-15WP-PIPE Rear View

2.2.2 Titan-21WP-VESA/PIPE-E3950

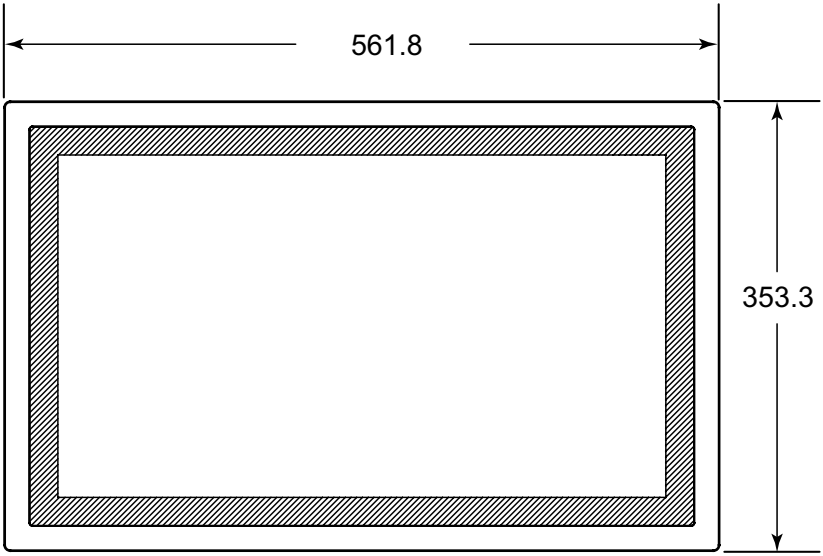


Figure 2-5: Titan-21WP Front View

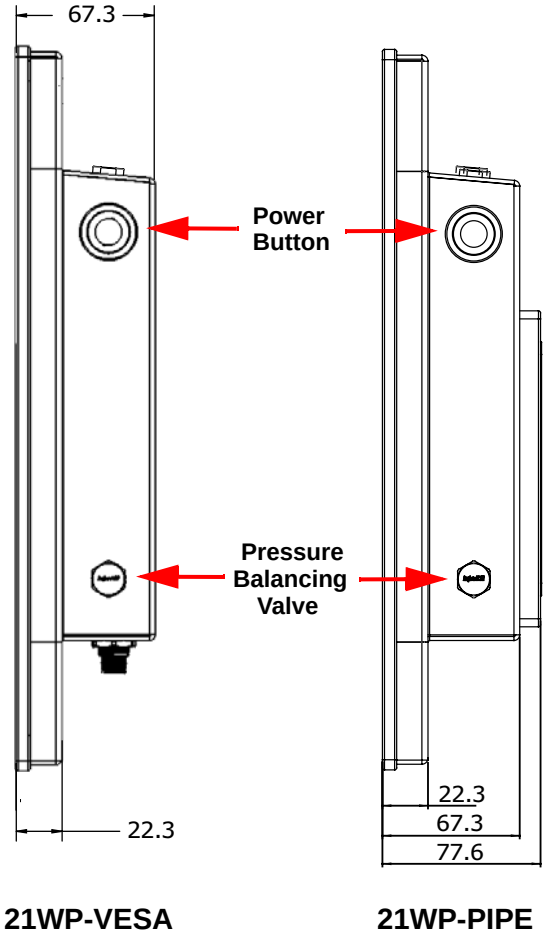


Figure 2-6: Titan-21WP Side View (Right)

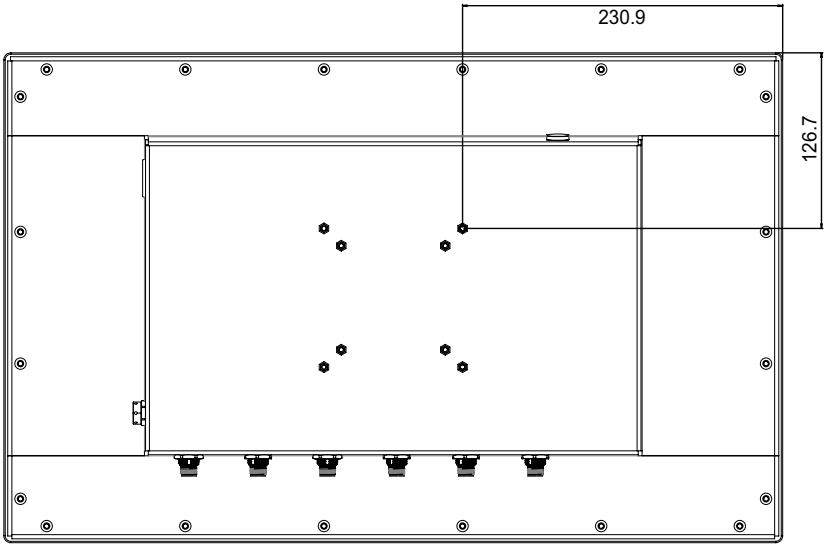


Figure 2-7: Titan-21WP-VESA Rear View

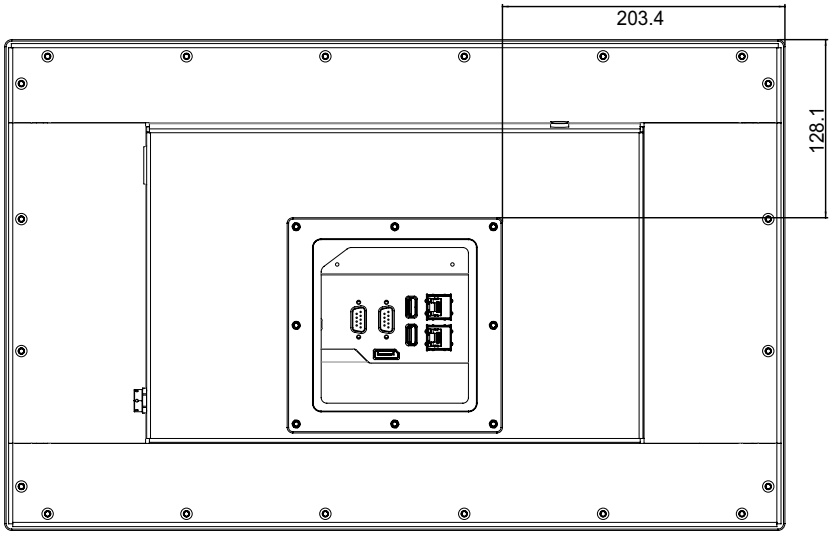


Figure 2-8: Titan-21WP-PIPE Rear View

2.2.3 Titan-24WP-VESA/PIPE-E3950

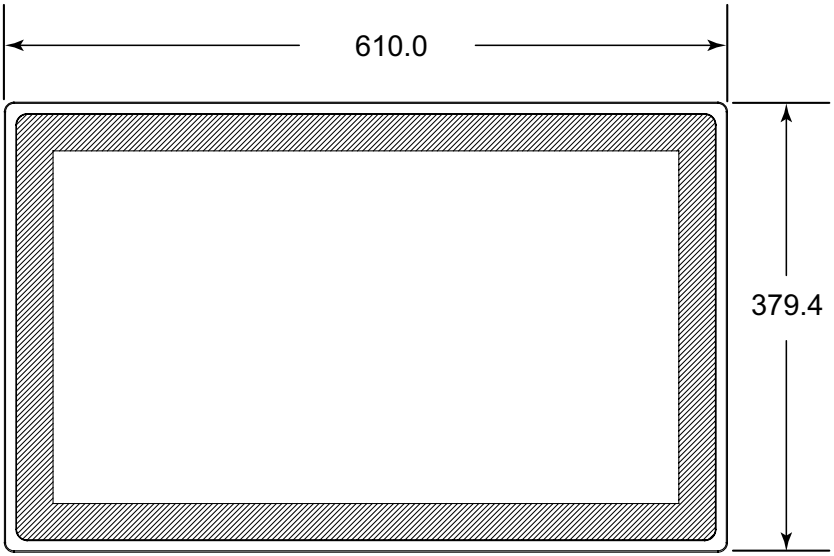


Figure 2-9: Titan-24WP Front View

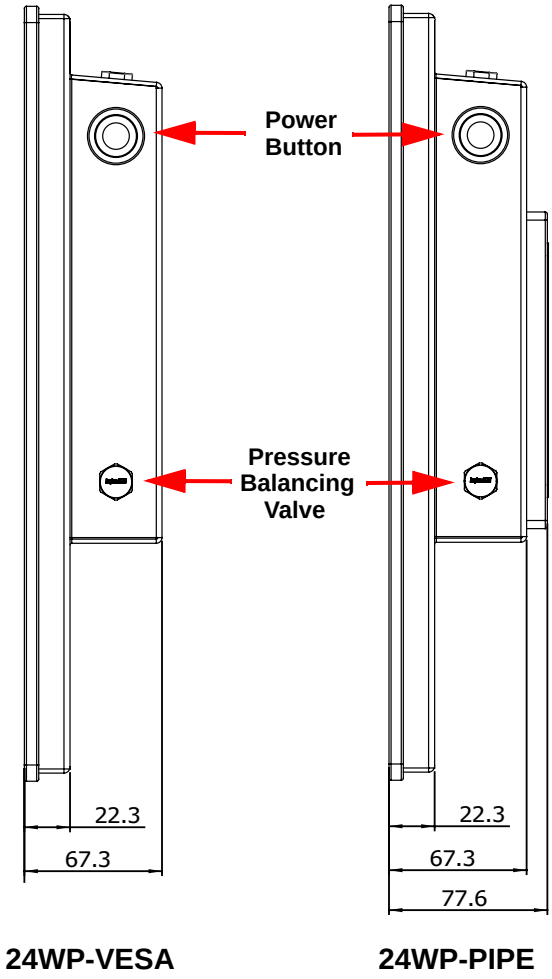


Figure 2-10: Titan-24WP Side View (Right)

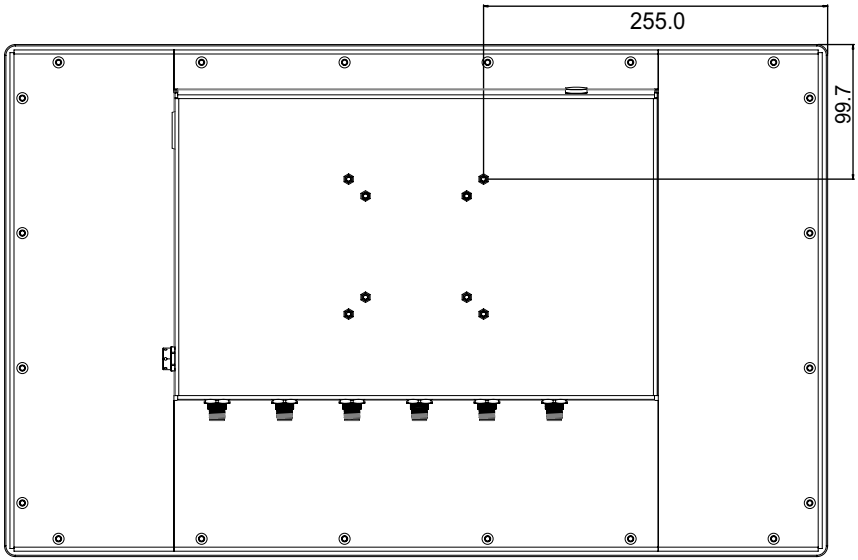


Figure 2-11: Titan-24WP-VESA Rear View

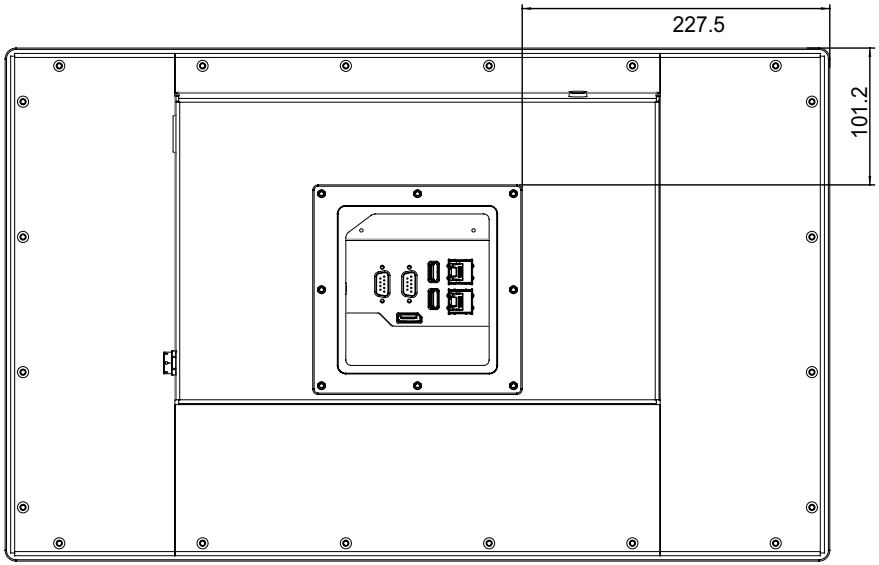


Figure 2-12: Titan-24WP-PIPE Rear View

2.3 I/O Connectors - VESA Mount Version

The M12 I/O connectors located on the underside of the Titan-AL VESA mount chassis are as follows.

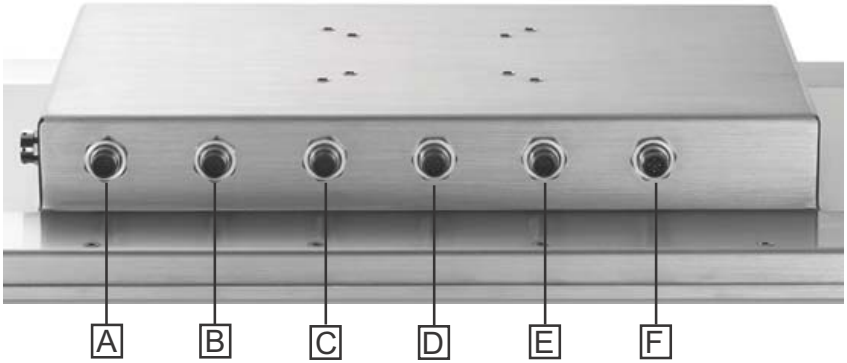


Figure 2-13: VESA Mount External I/O

A	AC power input
B	COM1 port
C	COM2 port
D	GbE1 port
E	GbE2 port
F	USB 2.0 x2

2.4 I/O Connectors - Pipe Mount Version

I/O connectors located in the opening on the rear of the Pipe Mount Titan-AL chassis are as follows.

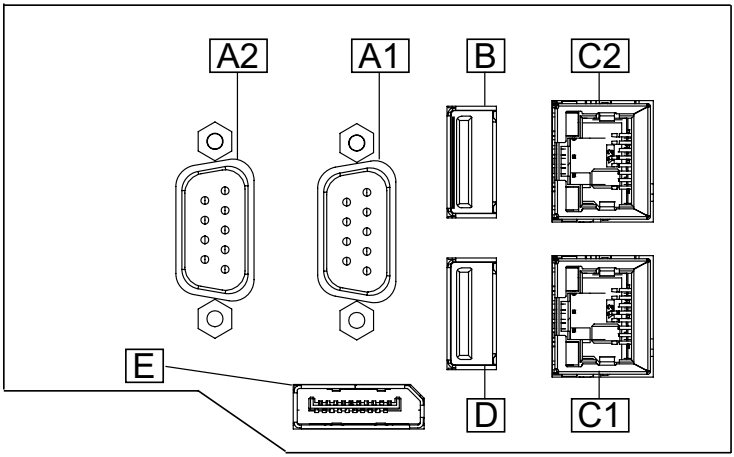


Figure 2-14: Pipe-Mount External I/O

A1	COM1 port
A2	COM2 port
B	USB 3.0
C1	GbE1
C2	GbE2
D	USB 2.0
E	DisplayPort

2.5 Smart Embedded Management Agent (SEMA)

The SEMA (Smart Embedded Management Agent) utility provides system control and failure protection, by counting, monitoring, and measuring hardware and software events.

For more information and operating instructions, please visit https://www.adlinktech.com/Products/Industrial_IoT_and_Cloud_solutions/SEMA_Smart_Embedded_Management_Agent/SEMA

3 Getting Started

Follow the instructions in this chapter to mount, power up, and install the drivers for the Titan-AL.


NOTE:

To ensure correct operation of the device, do not cover the openings on the pressure balancing valve.

3.1 Mounting Solutions

The Titan-AL comes in VESA mount and pipe mount versions. The mounting procedures are described as described below.

3.1.1 VESA Mounting

Use the four M4 10mm screws included in the screw pack to mount the panel as shown (recommended torque: 12 to 15 kgf-cm).

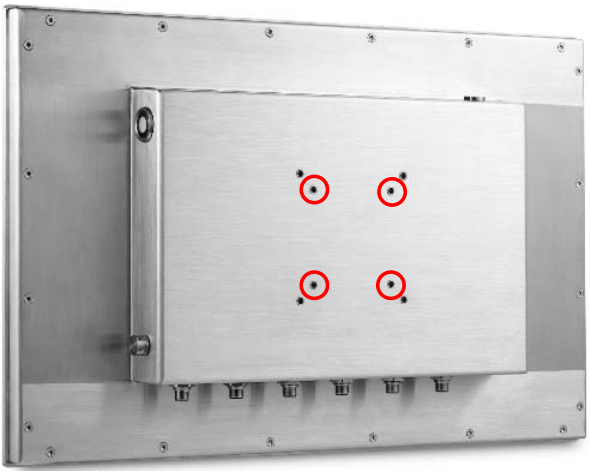


Figure 3-1: VESA 75 Mounting

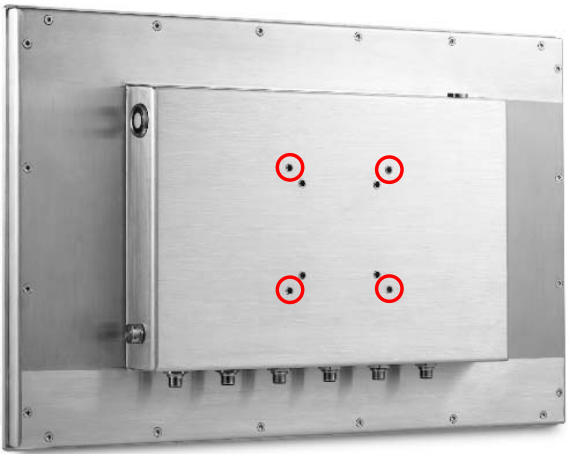


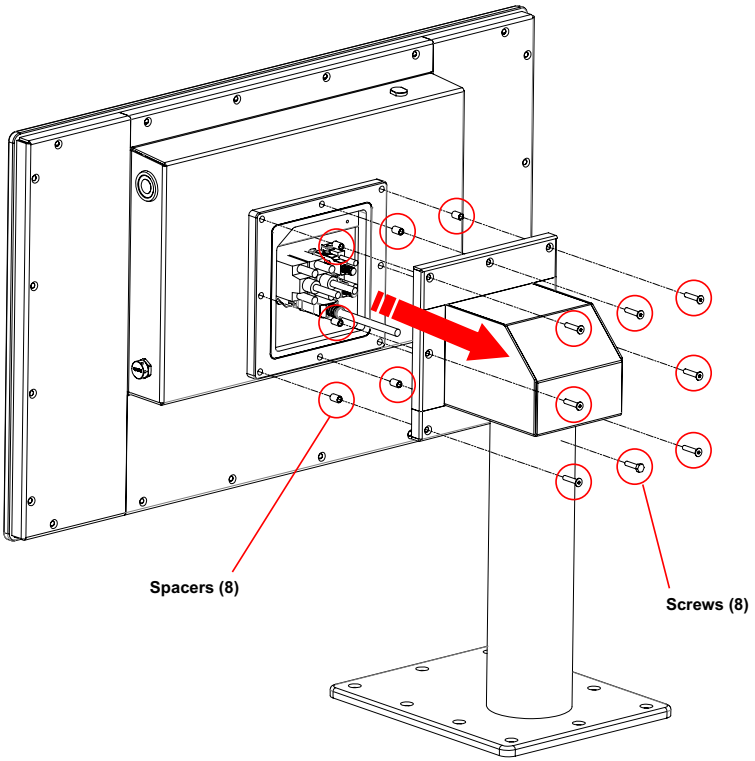
Figure 3-2: VESA 100 Mounting

3.1.2 Pipe Mounting

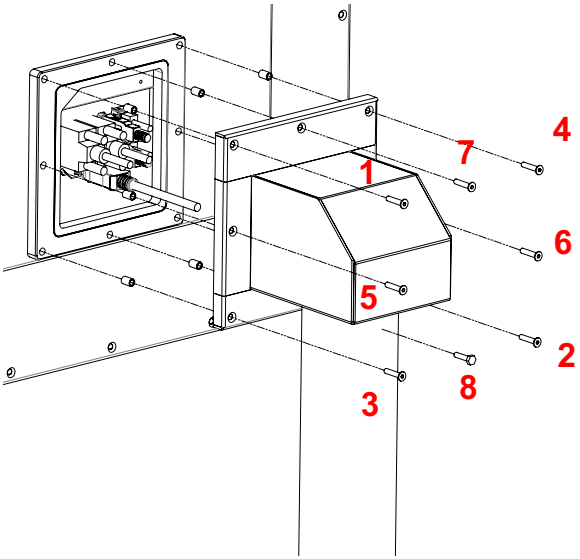
The Titan-AL pipe mount version requires an optional pipe mount bracket that is customized for the intended application. Please contact your local ADLINK respresentative for more information.

Securing the bracket to the panel

1. Connect all required cables to the connectors on the rear of the Pipe Mount Titan-AL chassis (Section 2.4 on page 13).
2. Feed the cables into the pipe mount bracket and out the base.
3. Make sure that the rubber seal is attached to the rear of the chassis as shown, and that the 8 spacers are inserted into the holes.



4. Attach the bracket onto the rubber seal and secure it with the 8 waterproof M4 screws provided.
5. Use a T20 screwdriver to tighten the screws in the criss-cross pattern indicated in the diagram below (note that the bottom center screw is a 7mm hex head due to the reduced clearance available). It is recommended to tighten the screws to the following torque values in 2 stages: first to 12 kgf-cm, then to 15 kgf-cm.

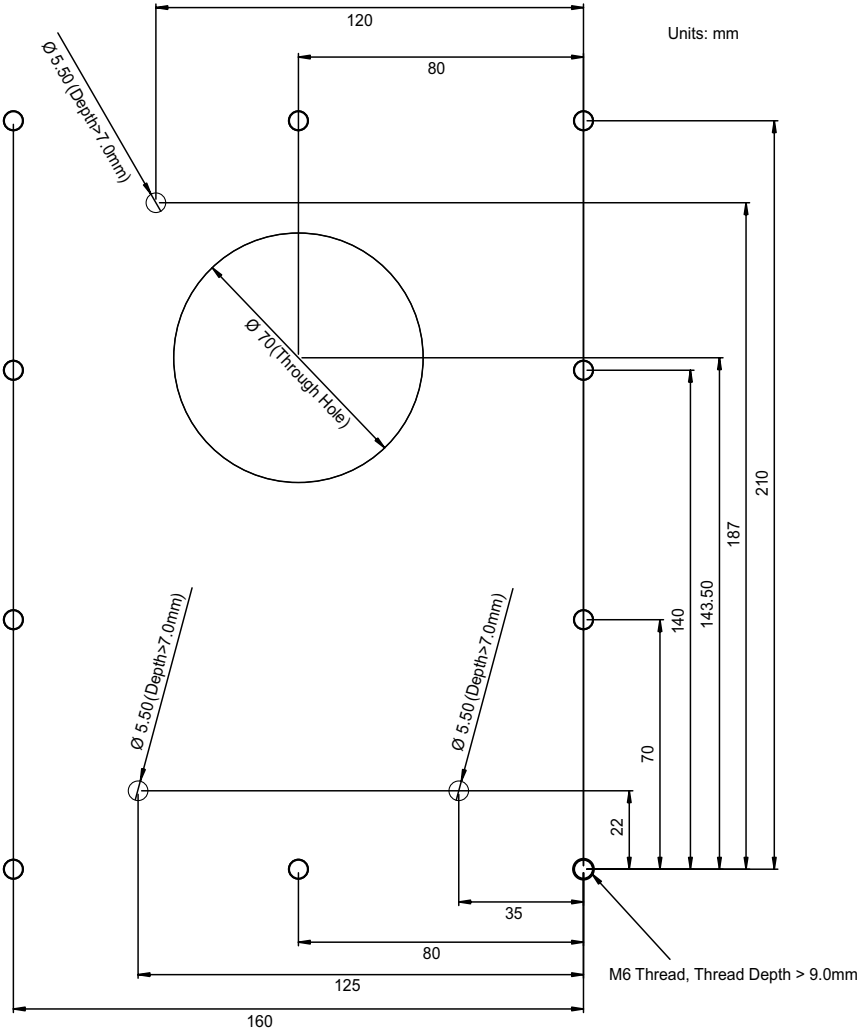


NOTE:

Screw type: Flathead M4-0.7X20 (T20) stainless steel screw with gasket-type seal and NYLOK® blue patch
Bottom center screw: 7mm hex head M4-0.7X20 stainless steel screw w/ O-ring and NYLOK® blue patch

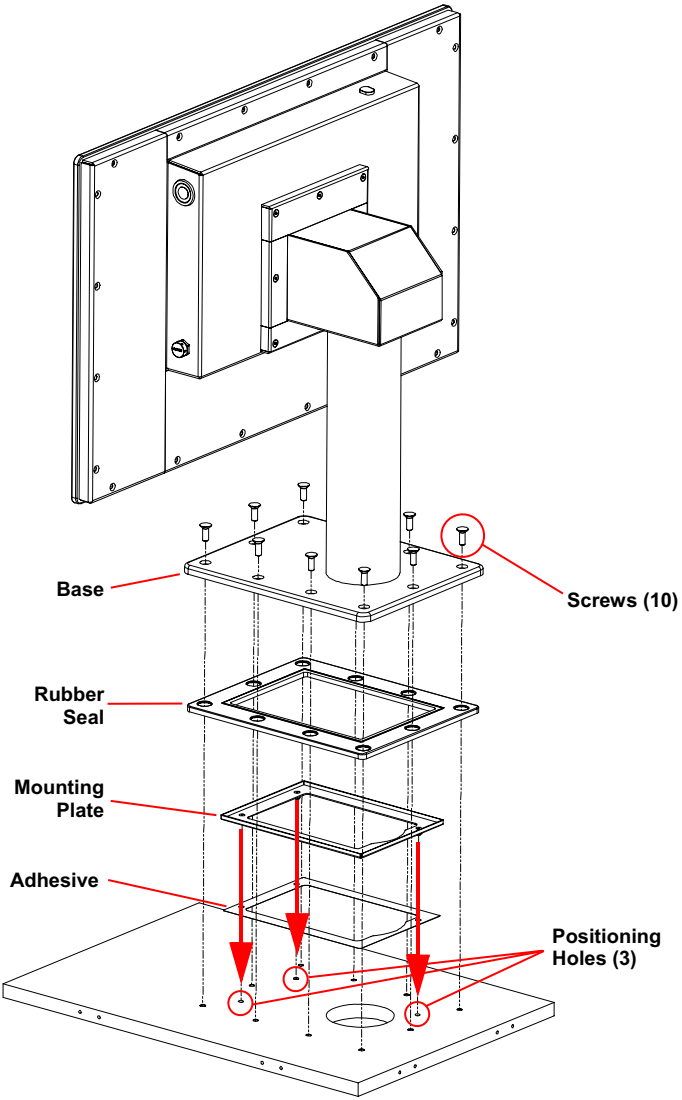
Preparing the mounting surface

Prepare the mounting surface for the pipe mount bracket by drilling and threading 10 mounting holes (M6 thread), drilling 3 positioning holes (Ø 5.5mm), and making a cut-out (Ø 70mm) for the cables as shown in the diagram below.

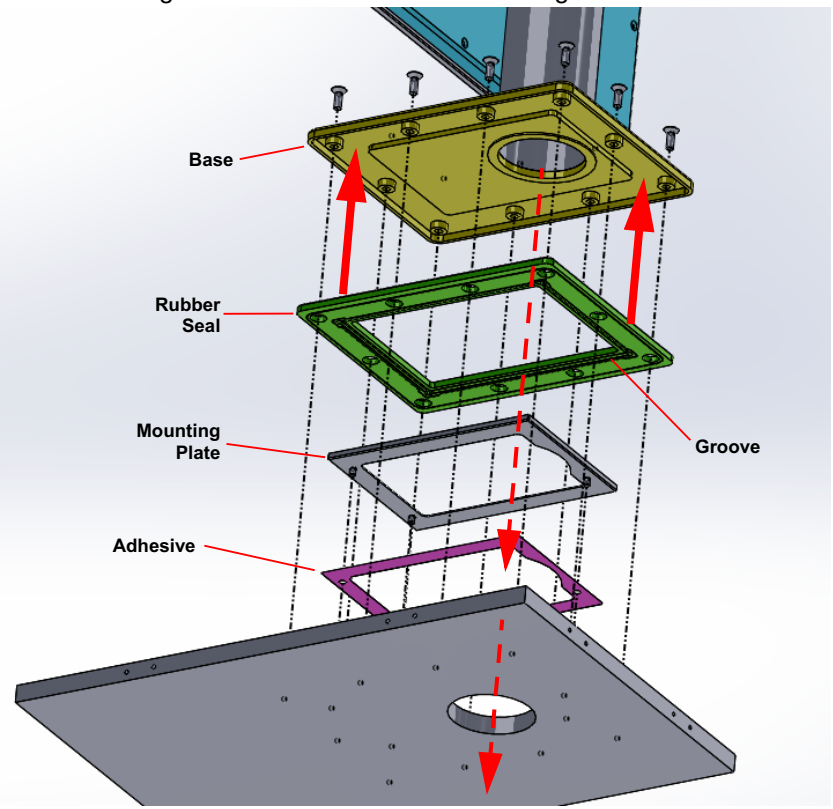


Securing the base to the mounting surface

1. Locate the mounting plate and peel the backing from the adhesive on the bottom. Align the 3 three positioning pins with the holes in the mounting surface and attach the plate with the adhesive side facing down.



2. Insert the rubber seal into the bottom of base of the pipe mount bracket with the grooved side facing downwards. Feed the cables from the base of the pipe mount base through the cut-out hole in the mounting surface. .

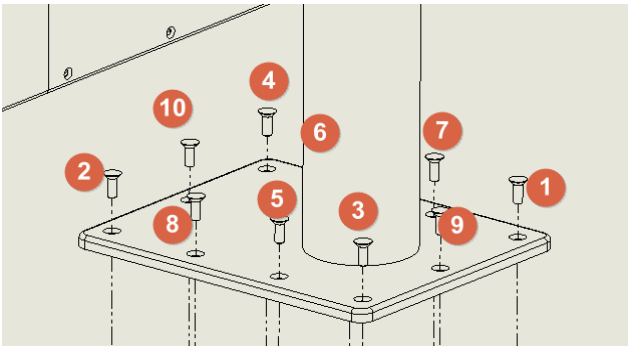


NOTE:

Make sure to insert the rubber seal into the bottom of the base of the pipe mount bracket with the grooved side facing downwards.

3. Place the base and rubber seal onto the mounting plate attached to the mounting surface. Secure the bracket to the mounting surface with the 10 M6 waterproof screws provided.

4. Use a T30 screwdriver to tighten the screws in the order indicated in the diagram below. It is recommended to tighten the screws to 50 kgf-cm.



3.2 Powering Up

3.2.1 Connect the AC Power Supply

Connect the AC power supply to the power input of your model . Refer to *Section 2.2 I/O Connectors - VESA Mount Version* for the location of the connector on the VESA mount version, and *Figure 3-3* below for the Pipe Mount version. The device will power up when the power supply is turned on.

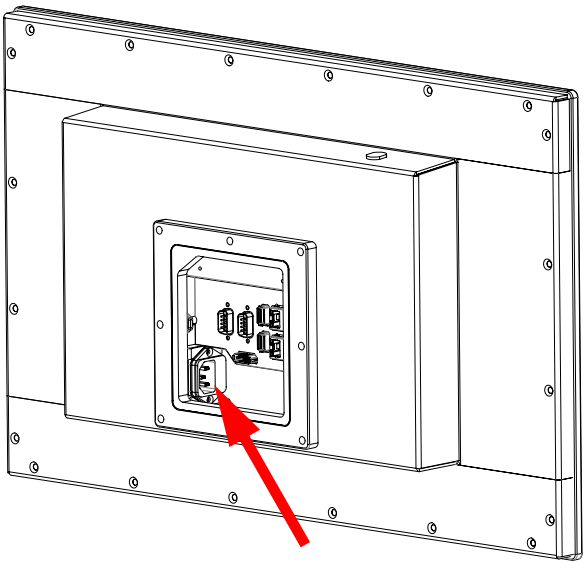


Figure 3-3: AC Connector on Pipe Mount Version

3.2.2 Power Button

The power button is located on the side of the chassis as shown in Section 2.2 Mechanical Drawings. To power down the device, perform a soft shutdown using the operating system. Press the power button to power up the device. To perform a hard shutdown, hold down the power button for several seconds until the device powers down.

3.3 Driver Installation

After installing the operating system, all related drivers must be installed for the system to function properly. This section describes the drivers needed for Windows operating systems and the procedures to install them. For other OS support, please contact ADLINK for further information.

Download the drivers from the ADLINK website at:
www.adlinktech.com/Products/Panel_PCs_Monitors/IndustrialPanelComputers/Titan-AL

Install the Windows 10 IoT Enterprise operating system before installing any drivers. Most standard I/O device drivers are included in the Windows OS. Please note that you will need Administrator privilege to install the drivers.

Install the drivers in the following order:

1. Chipset driver
2. Graphics driver
3. Ethernet driver
4. Serial I/O driver
5. Audio I/O driver (Pipe version only)
6. TXE driver

Chipset Driver

To install the chipset driver:

1. Close any running applications.
2. From ADLINK's website, download and extract the contents of the file *Titan-AL_Win10 64bit_Chipset*.
3. Execute *SetupChipset.exe* and follow onscreen instructions to complete the setup.
4. After installation is complete, reboot the system.

Graphics Driver

To install the graphics driver:

1. Close any running applications.
2. From ADLINK's website, download and extract the contents of the file *Titan-AL_Win10 64bit_Graphics*.
3. Execute *igxpin.exe* and follow onscreen instructions to complete the setup.
4. After installation is complete, reboot the system.

Ethernet Driver

To install the Ethernet controller driver:

1. Close any running applications.
2. From ADLINK's website, download and extract the contents of the file *Titan-AL_Win10 64bit_Ethernet*.
3. Execute *LAN-PROWinx64 22.9.exe* and follow onscreen instructions to complete the setup.
4. After installation is complete, reboot the system.

Serial I/O Driver

To install the serial I/O controller driver:

1. Close any running applications.
2. From ADLINK's website, download and extract the contents of the file *Titan-AL_Win10 64bit_Serial* .
3. Execute *SetupSerialIO.exe* and follow onscreen instructions to complete the setup.
4. After installation is complete, reboot the system.

Audio Driver (Pipe Version only)

To install the audio driver:

1. Close any running applications.
2. From ADLINK's website, download and extract the contents of the file *Titan-AL_Win10 64bit_Audio* .
3. Execute *Setup.exe* and follow onscreen instructions to complete the setup.

TXE Driver

To install the serial I/O controller driver:

1. Close any running applications.
2. From ADLINK's website, download and extract the contents of the file *Titan-AL_Win10 64bit_TXE*.
3. Execute *SetupTXE.exe* and follow onscreen instructions to complete the setup.

3.4 SEMA Utility

The Titan-AL supports ADLINK Smart Embedded Management Utility with features as follows.

- System Health for real time CPU, system temperature, total/ current uptime
- Watchdog Timer
- Hardware Monitoring for input voltage levels and current power consumption

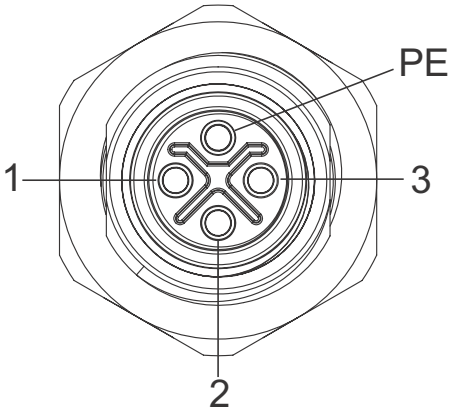
For more information and operating instructions, please visit https://www.adlinktech.com/Products/Industrial_IoT_and_Cloud_solutions/SEMA_Smart_Embedded_Management_Agent/SEMA

4 Interfaces

4.1 Pin Definitions - VESA Mount Version

Refer to Section 2.3 I/O Connectors - VESA Mount Version for connector location information.

4.1.1 AC Power Input (M12)

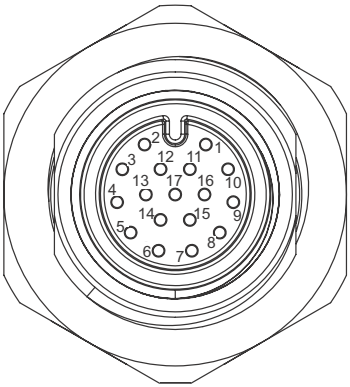


Pin	Signal
PE	Protective Earth
1	Line (L)
2	NC
3	Neutral (N)

Table 4-1: AC Power Input Pin Definition (M12)

4.1.2 COM Port (M12)

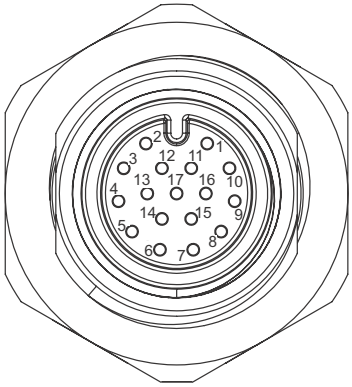
COM1/2 ports support RS-232 (default) and RS-422/RS-485 modes, by BIOS setting.



Pin	Signal		
	RS-232	RS-422	RS-485
1	DCD#	TXD422-	485-
2	RXD	TXD422+	485+
3	TXD	RXD422+	N/C
4	DTR#	RXD422-	N/C
5	GND	N/C	N/C
6	DSR#	N/C	N/C
7	RTS#	N/C	N/C
8	CTS#	N/C	N/C
9	RI#	N/C	N/C
10	CH_GND	CH_GND	CH_GND

Table 4-2: COM Ports Pin Definition (M12)

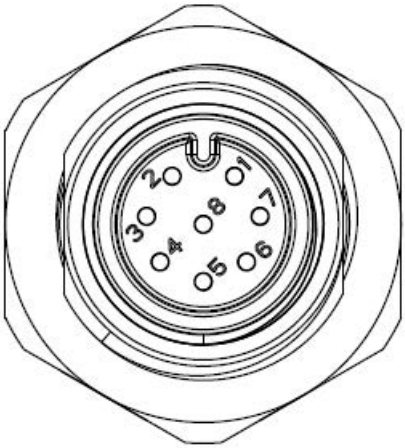
4.1.3 USB 2.0 Ports (M12)



Pin	Signal
1	P5V
2	USB1_N
3	USB1_P
4	GND
5	P5V
6	USB2_N
7	USB2_P
8	GND
9-17	N/C

Table 4-3: USB 2.0 Port Pin Definition (M12)

4.1.4 GbE Ports (M12)



Pin	10BASE-T/ 100BASE-TX	1000BASE-T
1	TX+	TX0+
2	TX-	TX0-
3	RX+	TX1+
4	—	TX2+
5	—	TX2-
6	RX-	TX1-
7	—	TX3+
8	—	TX3-

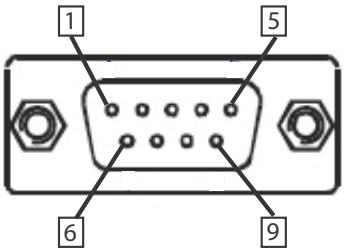
Table 4-4: GbE Port Pin Definition (M12)

4.2 Pin Definitions - Pipe Mount Version

Refer to Section 2.4 I/O Connectors - Pipe Mount Version for connector location information.

4.2.1 COM Ports (DB-9)

COM1/2 ports support RS-232 (default) and RS-422/RS-485 modes, by BIOS setting.



Pin	Signal		
	RS-232	RS-422	RS-485
1	DCD#	TXD422-	485-
2	RXD	TXD422+	485+
3	TXD	RXD422+	N/C
4	DTR#	RXD422-	N/C
5	GND	N/C	N/C
6	DSR#	N/C	N/C
7	RTS#	N/C	N/C
8	CTS#	N/C	N/C
9	RI#	N/C	N/C

Table 4-5: COM Port Pin Definition (DB-9)

4.2.2 USB Ports

USB 2.0 (Type A)

Pin #	Signal Name
1	USB2.0_VBUS
2	D-
3	D+
4	GND

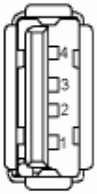


Table 4-6: USB 2.0 Pin Definition (Type A)

USB 3.0 (Type A)

Pin #	Signal Name
1	USB3.0_VBUS
2	D-
3	D+
4	GND
5	SSRX-
6	SSRX+
7	GND
8	SSTX-
9	SSTX+

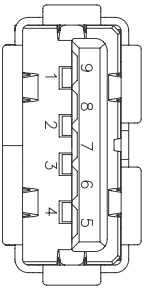
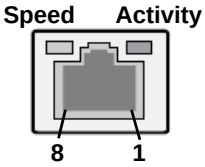


Table 4-7: USB 3.0 Pin Definition (Type A)

4.2.3 GbE Ports (RJ-45)

Pin #	10BASE-T/ 100BASE-TX	1000BASE-T
1	TX+	TX0+
2	TX-	TX0-
3	RX+	TX1+
4	—	TX2+
5	—	TX2-
6	RX-	TX1-
7	—	TX3+
8	—	TX3-

Table 4-8: RJ-45 GbE Pin Definition (RJ-45)

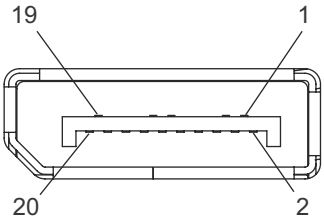


LED	LED Color	Status	Description
Speed (left)	Green/ Yellow	OFF	10 Mbps
		Green	100 Mbps
		Yellow	1 GBbps
Active/Link (right)	Green	OFF	Ethernet port is disconnected
		ON	Ethernet port is connected with no activity
		Flashing	Ethernet port is connected and active

Table 4-9: GbE Port LED Definition

4.2.4 DisplayPort

One DisplayPort connector supports the DP++ standard specification, and can connect to VGA, DVI, HDMI, and Display Port monitors via DisplayPort to VGA adapter cable, DisplayPort to DVI adapter cable, or DisplayPort to HDMI adapter cable and Display Port cable, with DP1.2 support for resolutions up to 4096 x 2160 at 60Hz.



Pin	Signal	Pin	Signal
1	ML_Lane0_P	11	GND
2	GND	12	ML_Lane3_N
3	ML_Lane0_N	13	Config1
4	ML_Lane1_P	14	Config2
5	GND	15	Aux_P
6	ML_Lane1_N	16	GND
7	ML_Lane2_P	17	Aux_N
8	GND	18	Hot Plug
9	ML_Lane2_N	19	Return
10	ML_Lane3_P	20	DP_PWR_+3.3V

Table 4-10: DisplayPort Pin Definition

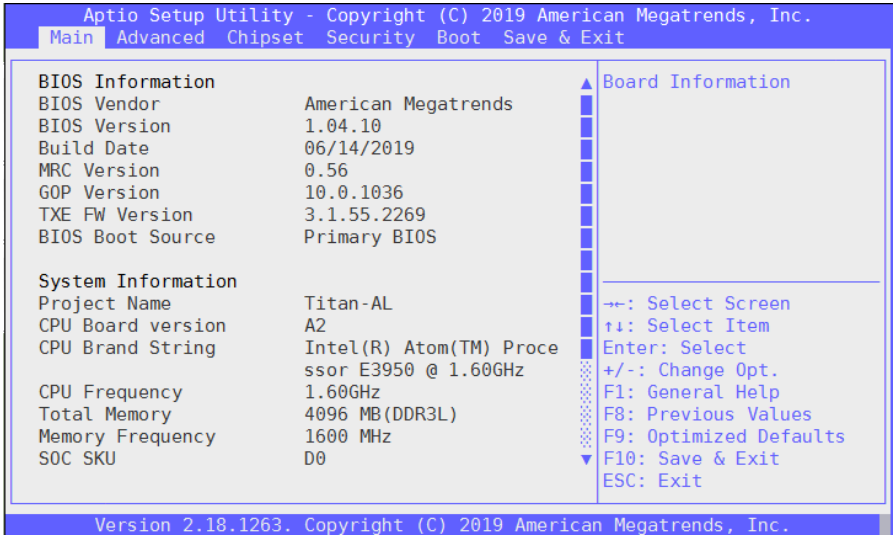
5 BIOS Setup

The Basic Input/Output System (BIOS) is a program that provides a basic level of communication between the processor and peripherals. In addition, the BIOS also contains codes for various advanced features applied to the Titan-AL. The BIOS setup program includes menus for configuring settings and enabling features of the Titan-AL. Most users do not need to use the BIOS setup program, as the Titan-AL ships with default settings that work well for most configurations.

Changing BIOS settings may lead to incorrect controller behavior and possible inability to boot.
La modification des paramètres du BIOS peut entraîner un comportement incorrect du contrôleur et une impossibilité éventuelle de démarrer.

5.1 Main

Contains basic system information for the rugged panel computer.



BIOS Information

Shows vendor, version, build date, MRC Version, GOP Version, and TXE FW Version for active BIOS.

System Information

Shows current system project name, hardware version, CPU brand string, CPU frequency, total memory, memory frequency and PCH SKU.

System Time/System Date

Allows adjustment of system time and date, as follows:

1. Highlight System Time or System Date using the up and down keys
2. Enter new values using the keyboard and <Tab> to move between fields

NOTE:

The time is in 24-hour format, for example, 5:30 A.M. appears as 05:30:00, and 5:30 P.M. as 17:30:00.

Access Level

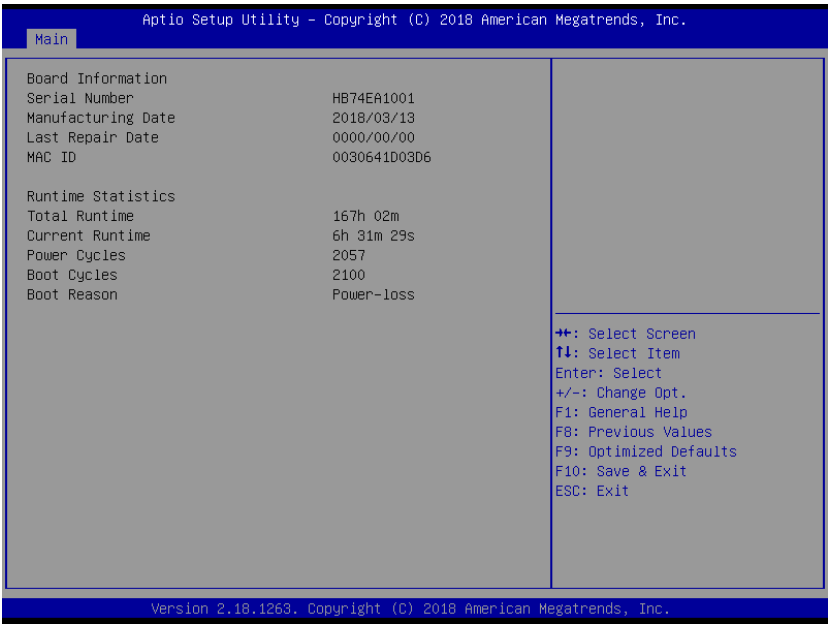
Displays the current access level for BIOS setup.

5.1.1 Board Information

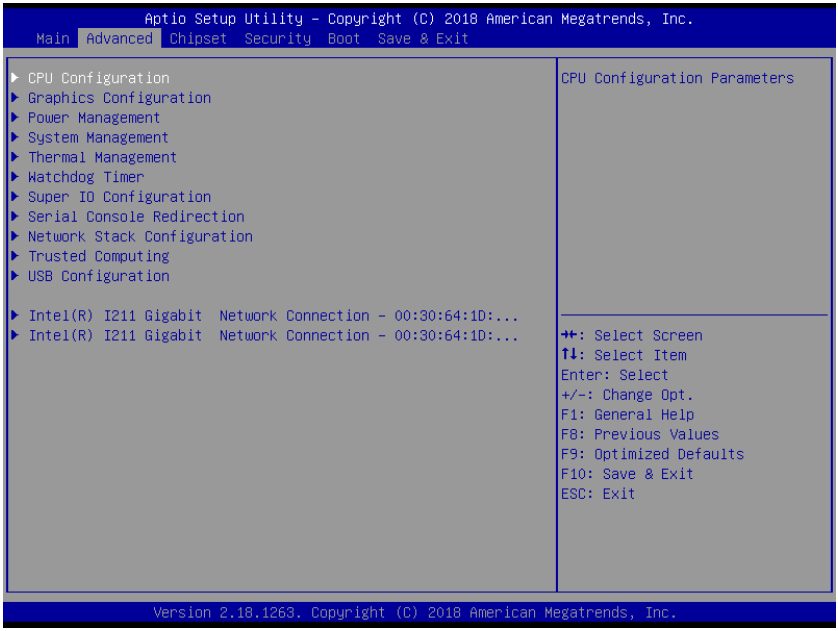
Displays serial number, manufacturing date, last repair date, and MAC address for the installed board.

Runtime Statistics

Displays total runtime, current runtime, power cycles, boot cycles, and boot reason for the system.



5.2 Advanced

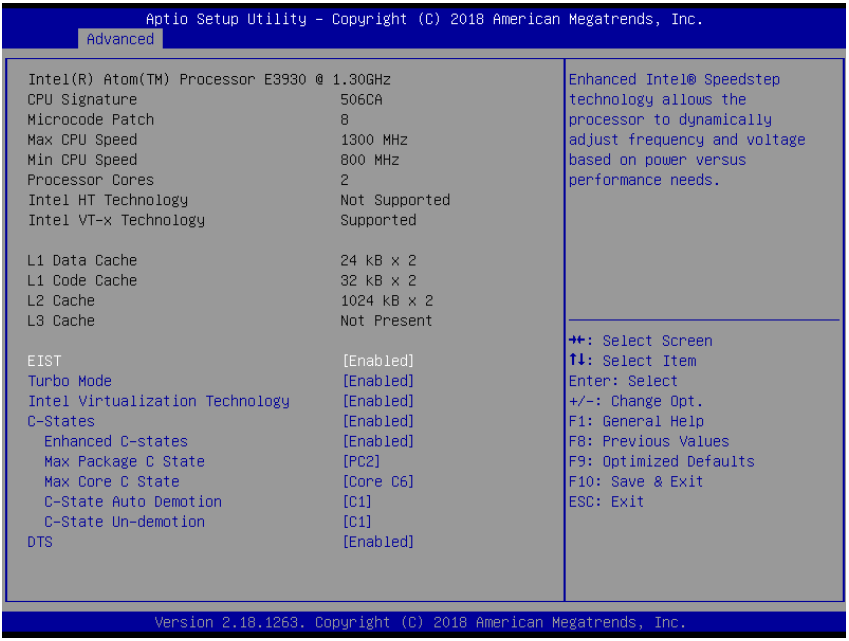


This menu accesses advanced options for the device.

CAUTION:

Setting incorrect or conflicting values in Advanced BIOS Setup may cause system malfunction.
Le réglage de valeurs incorrectes ou conflictuelles dans la configuration avancée du BIOS peut entraîner un dysfonctionnement du système.

5.2.1 CPU Configuration



EIST

Enables/disables Intel SpeedStep.

Turbo Mode

Enables/disables Turbo mode.

Intel Virtualization Technology

When enabled, VMM can utilize the additional hardware capabilities provided by Vanderpool Technology.

C-States

Enhanced C-state

Enables/disables C1E, where, when enabled, CPU will switch to minimum speed when all cores enter CStates.

Max Package C State

Sets the Max Package C State supported by the processor, from among PC2, PC1, and C0.

Max Core C State

Sets the Max Core C State supported by the cores, from among Fused value, Core C10, Core C9, and Core C8,

C-State Auto Demotion

Configures C-State Auto Demotion.

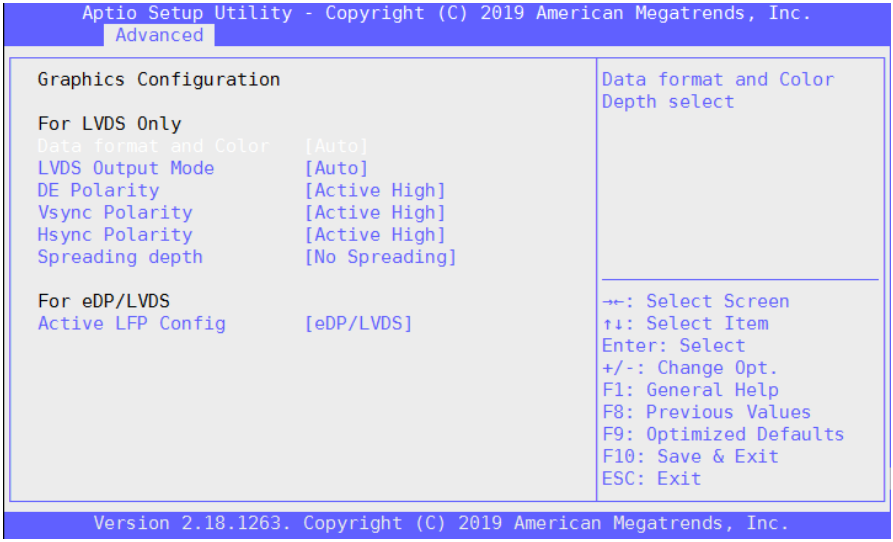
C-State Un-demotion

Configures C-State Auto Un-demotion.

DTS

Enables/disables Digital Thermal Sensor.

5.2.2 Graphics Configuration



Data Formation and Color Depth

Selects data format and color depth, from among Auto, VESA 24 bpp, JEIDA 24 bpp, and JEIDA/vesa 18 bpp

LVDS Output Mode

Selects single/dual mode

DE Polarity

Selects active High/Active Low DE polarity

Vsync Polarity

Selects Active High/Active Low Vsync polarity

Hsync Polarity

Selects Active High/Active Low Hsync polarity

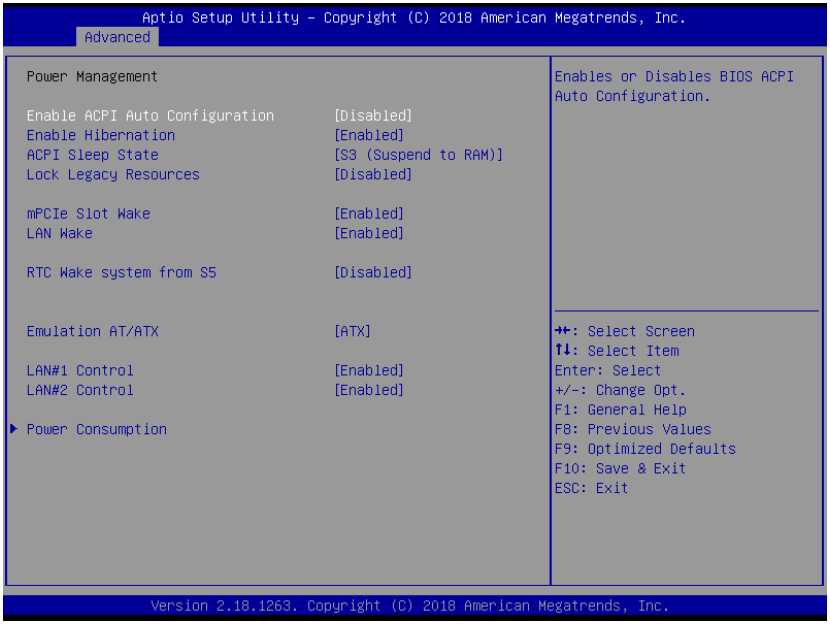
Spreading Depth

Selects clock frequency center spreading depth

Active LFP Config

Configures active local flat panel

5.2.3 Power Management



Enable ACPI Auto Configuration

Enables/disables BIOS ACPI Auto Configuration.

Enable Hibernation

Enables/disables hibernation (OS/S4 Sleep State), incompatible with some OS.

ACPI Sleep State

Selects the highest ACPI sleep state the system will enter when SUSPEND is entered.

Lock Legacy Resources

Enables/disables Legacy Resources.

mPCIe Slot Wake

Enables/disables PCI Express slot wake capability.

LAN Wake

Enables/disables onboard LAN wake capability.

RTC Wake system from S5

Enables/disables system wake on alarm event, from among

- Fixed Time: system wakes on the hr::min::sec specified
- Dynamic Time: system wakes on the current time + increase in minutes

Emulation AT/ATX

Selects Emulation AT or ATX function, where, if set to [Emulation AT], BIOS will report no suspend functions to ACPI OS, and in windows XP, OS displays shutdown message during system shut-down.

LAN#1 Control

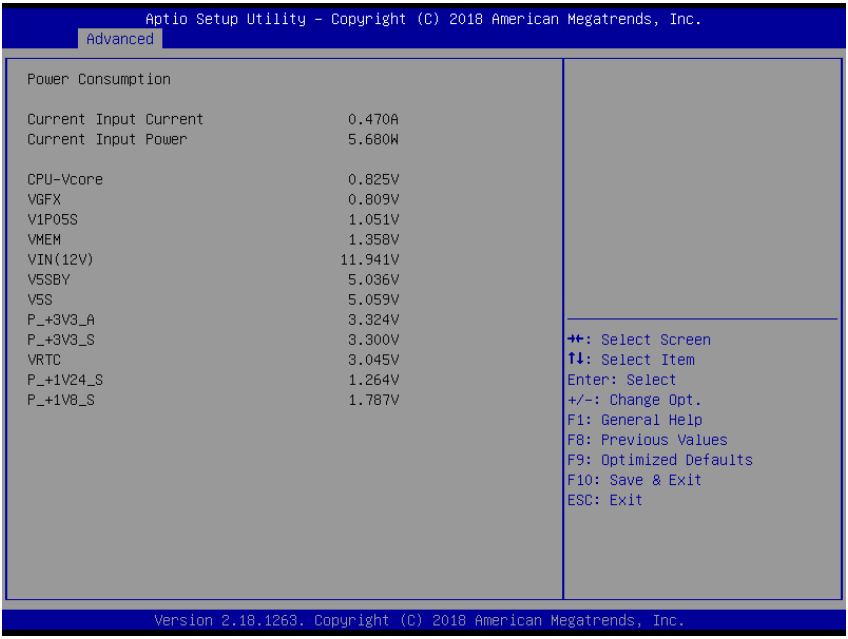
Enables/disables LAN#1 device.

LAN#2 Control

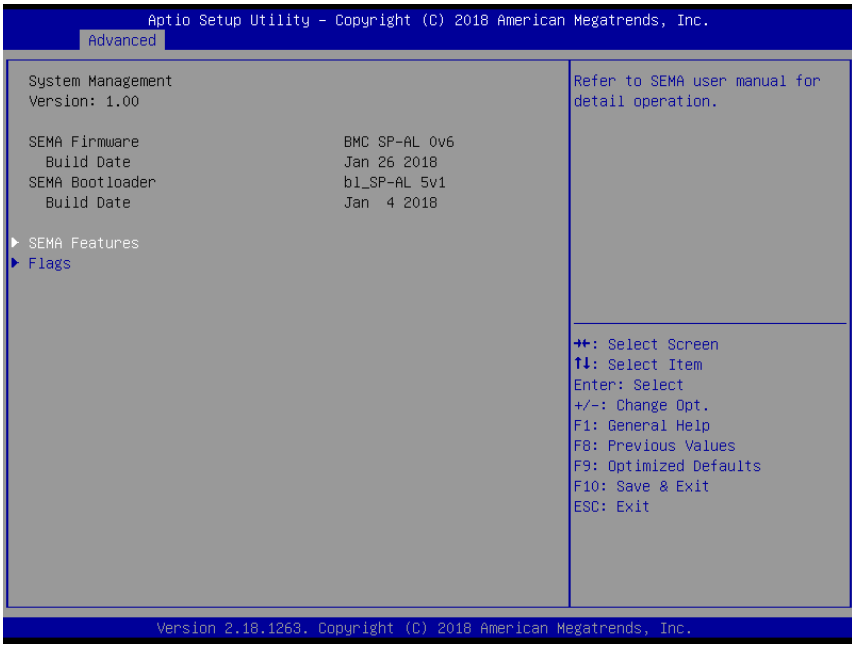
Enables/disables LAN#2 device.

Power Consumption

Power consumption information



5.2.4 System Management



Displays BMC and SEMA version and build date.

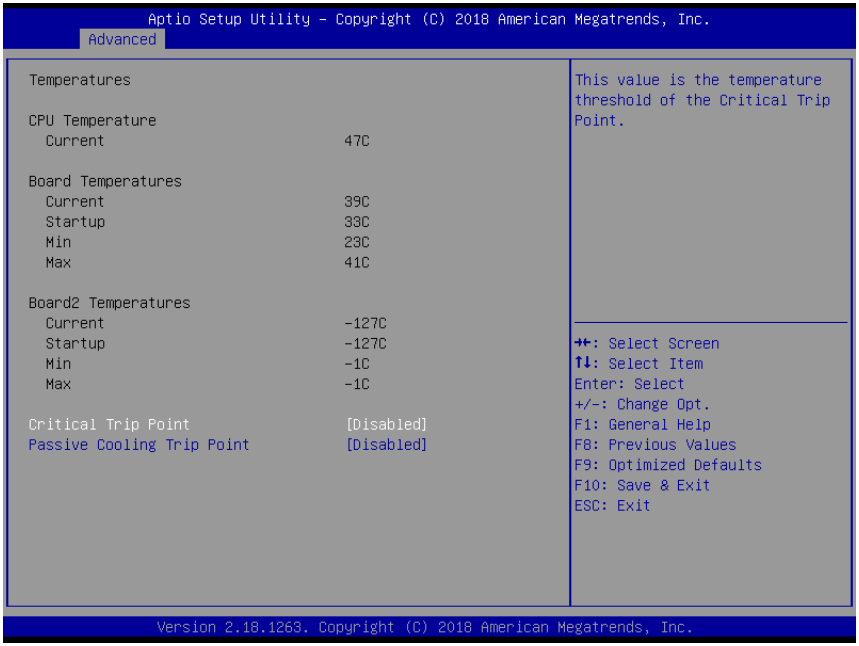
SEMA Features

Refer to SEMA documentation for detailed operation

Flags

Displays BMC flag

5.2.5 Thermal Management



Displays CPU and board temperatures.

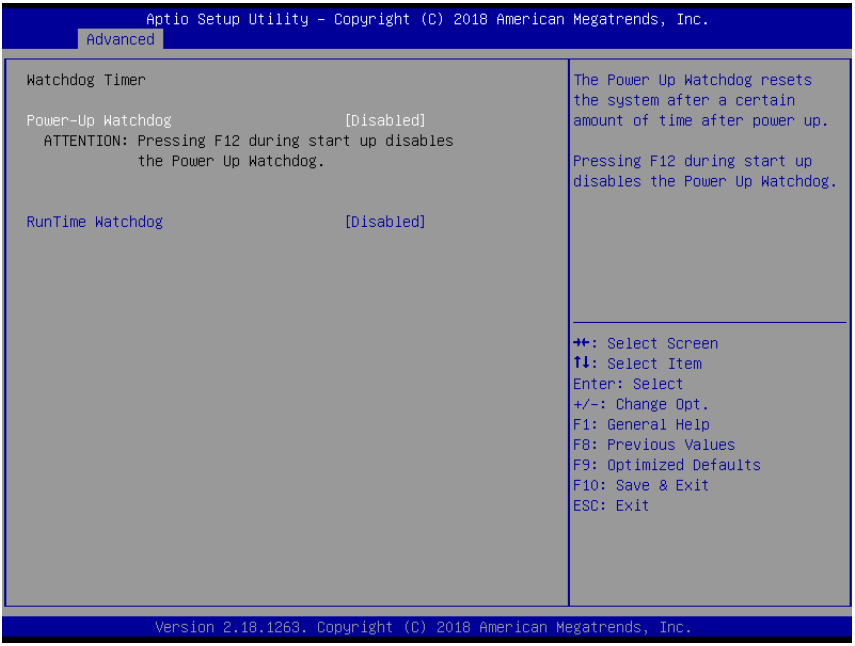
Critical Trip Point

Temperature threshold of critical trip point.

Passive Cooling Trip Point

Temperature threshold of passive cooling trip point.

5.2.6 Watchdog Timer



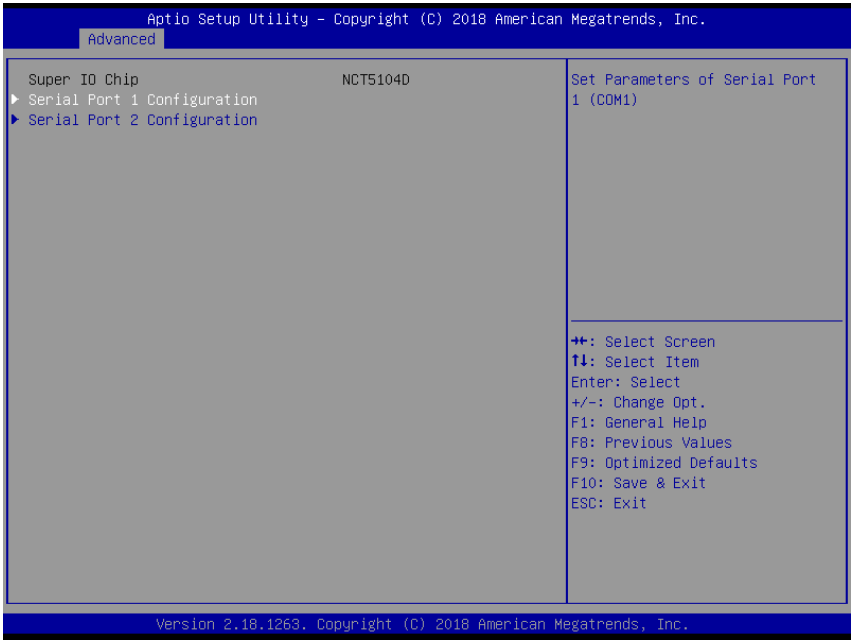
Power-Up Watchdog

Enables/disables Power Up watchdog, which, when enabled, resets the system a certain amount of time after power up. Pressing F12 during startup disables the power up watchdog.

RunTime Watchdog

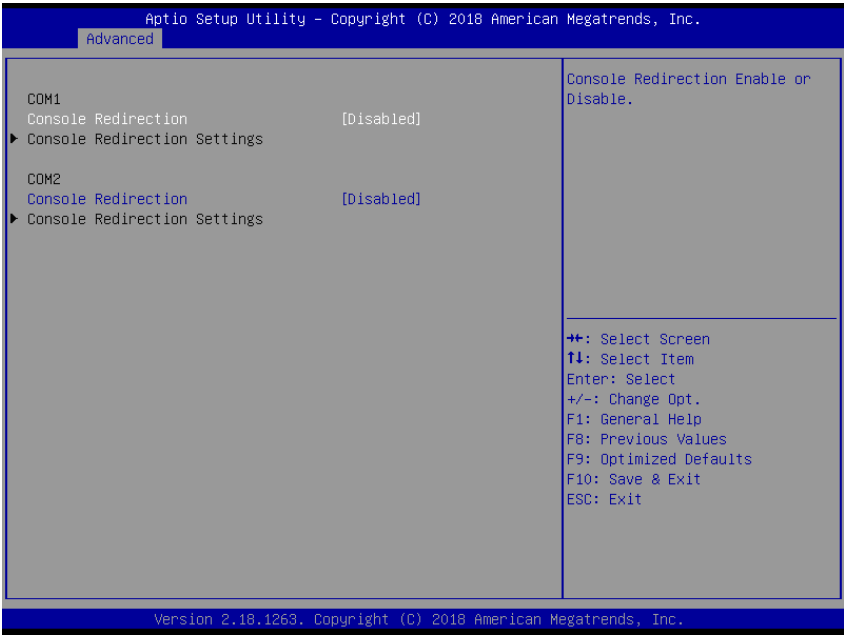
Enables/disables RunTime watchdog, which, when enabled, resets the system a certain amount of time after power up.

5.2.7 Super IO Configuration



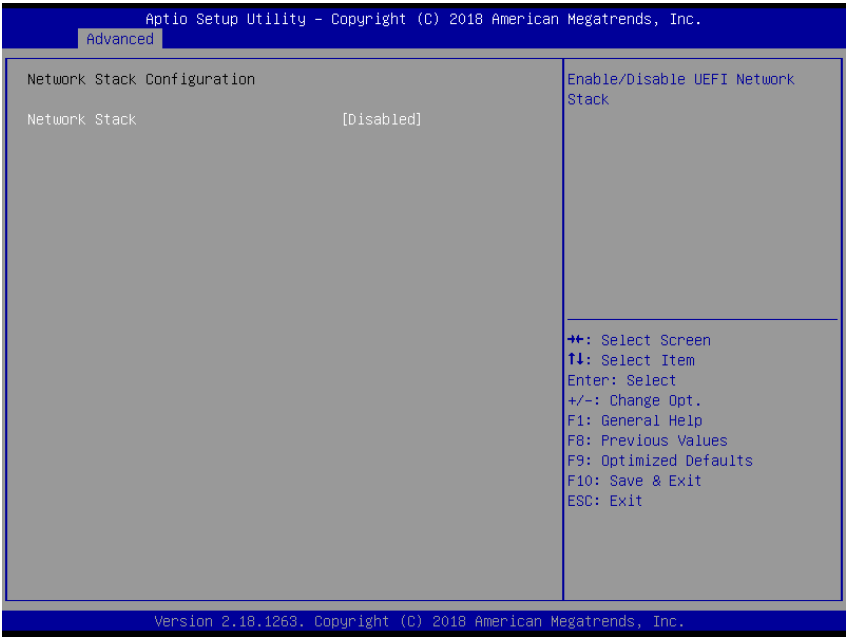
Enables/disables the serial port and sets the serial port mode to RS-232, RS-422 or RS-485.

5.2.8 Serial Console Redirection



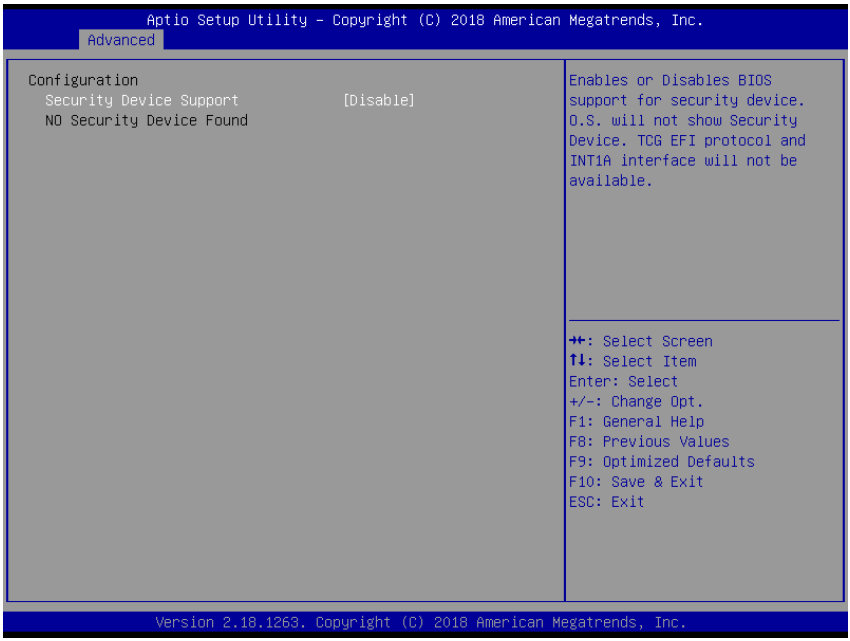
Enables/disables serial port console redirection.

5.2.9 Network Stack Configuration



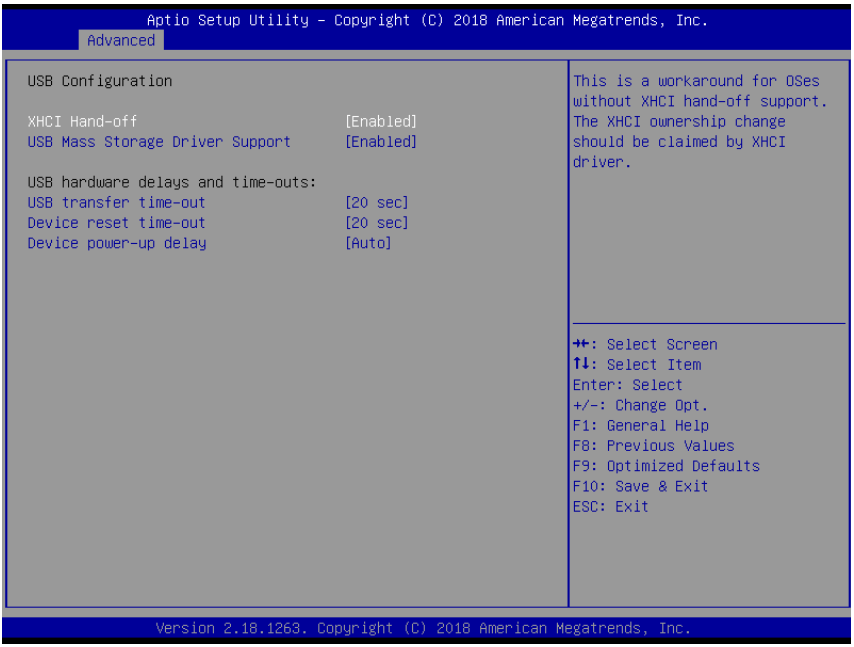
Enables/disables UEFI network stack.

5.2.10 Trusted Computing



Enables/disables BIOS support for security device, when disabled, OS will not show the security device, and TCG EFI protocol and INT1A interface will not be available.

5.2.11 USB Configuration



XHCI Hand-off

Enables/disables XHCI hand-off, as a workaround for OS with no XHCI hand-off support, where XHCI ownership change should be claimed by XHCI driver.

USB Mass Storage Driver Support

Enables/disables mass storage driver support.

USB transfer time-out

Time-out value for control, bulk, and interrupt transfers.

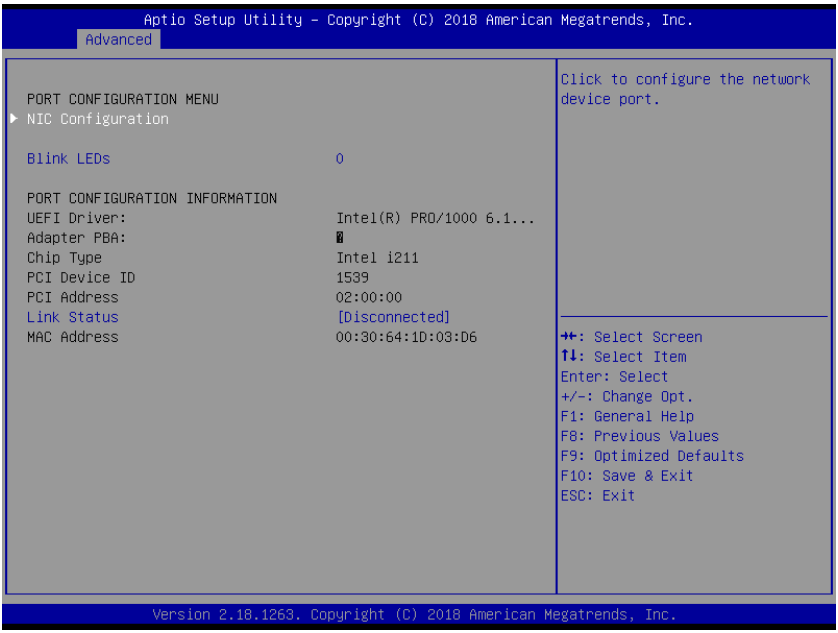
Device reset time-out

USB mass storage device Start Unit command time-out.

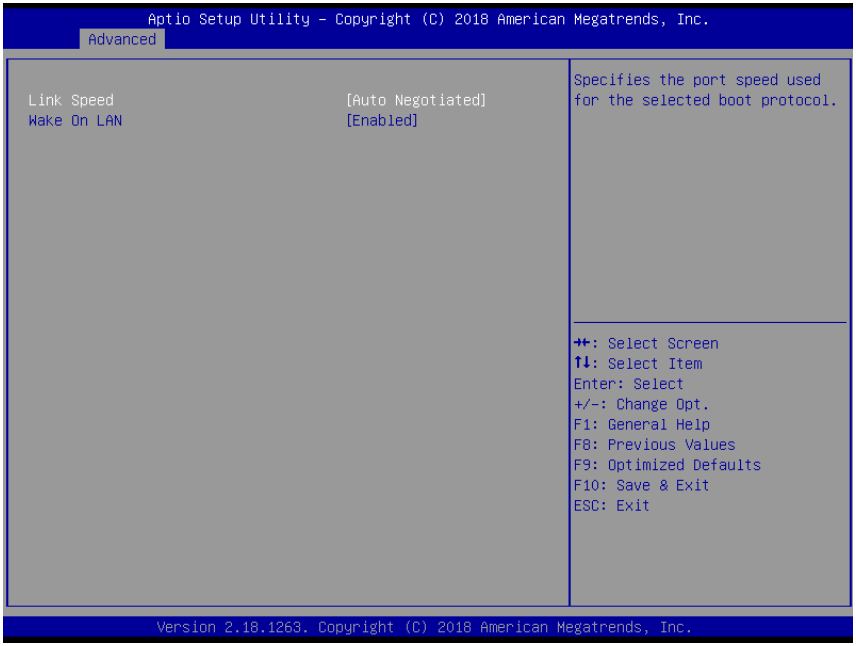
Device power-up delay

Maximum time the device will take before properly reporting itself to the Hot Controller, with ‘Auto’ using default value, for a Root port 100 ms, and for a Hub port the delay is taken from the Hub descriptor.

5.2.12 Intel I211 Gigabit Network Connection



NIC Configuration



Link Speed

Specifies the port speed used for the selected boot protocol.

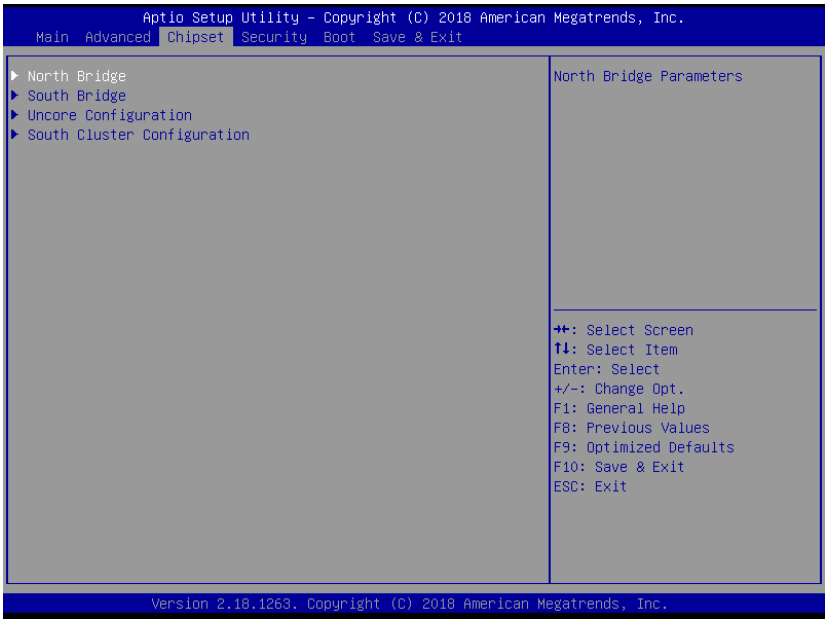
Wake On Lan

Enables the server to be powered on using an in-band magic packet.

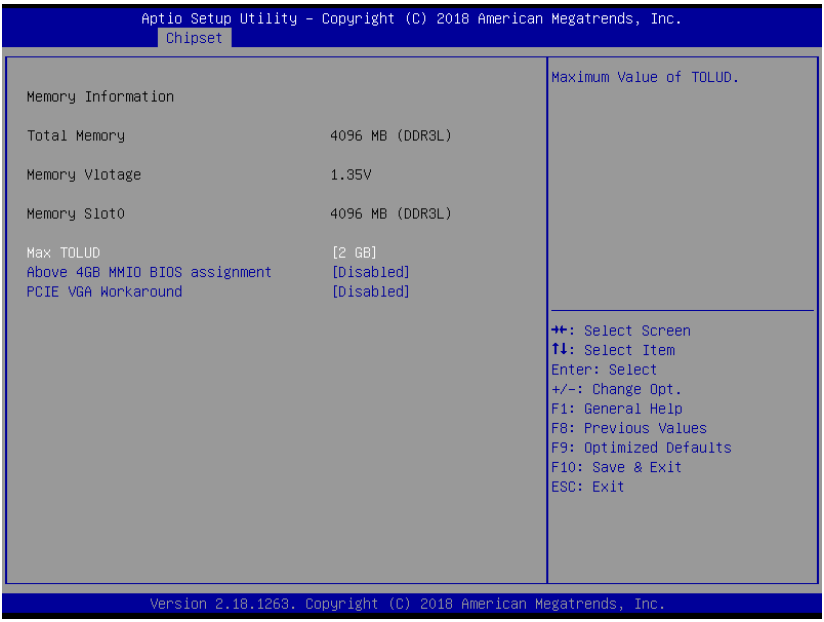
Blink LEDs

Identifies the physical network port by blinking the associated LED.

5.3 Chipset

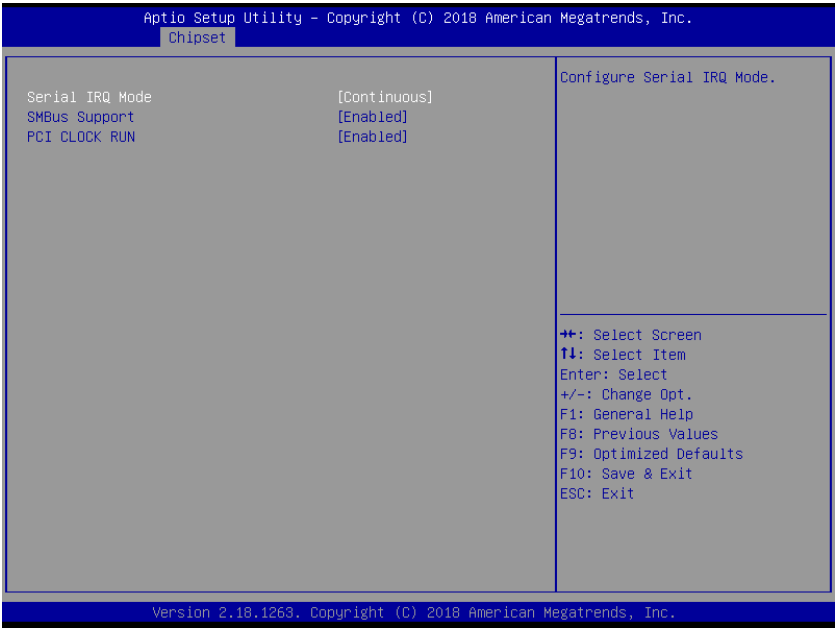

Aptio Setup Utility – Copyright (C) 2018 American Megatrends, Inc.
Main Advanced Chipset Security Boot Save & Exit
North Bridge
South Bridge
Uncore Configuration
South Cluster Configuration
North Bridge Parameters
→←: Select Screen
↑↓: Select Item
Enter: Select
+/-: Change Opt.
F1: General Help
F8: Previous Values
F9: Optimized Defaults
F10: Save & Exit
ESC: Exit
Version 2.18.1263. Copyright (C) 2018 American Megatrends, Inc.

5.3.1 North Bridge



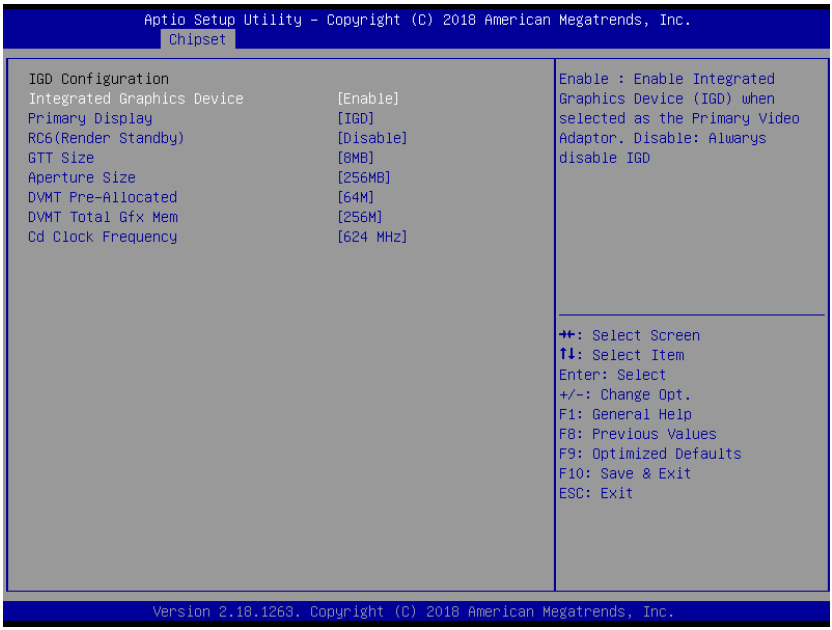
Displays memory information, sets maximum value for TOLUID and enables/disables BIOS assignment and PCIe VGA work-around.

5.3.2 South Bridge



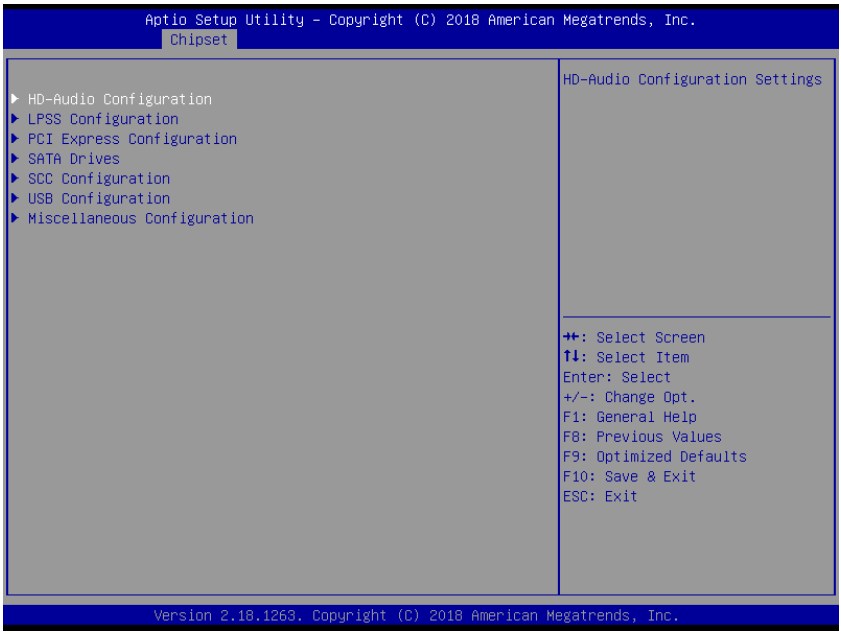
Sets IRQ mode and enables/disables SMBUs and PCI clock run.

5.3.3 Uncore Configuration



Enables/disables Integrated Graphic Device and RC6 (Render Standby), sets size for GTT, aperture size, DVMT pre-allocation, DVMT total Gfx Mem and CD clock frequency.

5.3.4 South Cluster Configuration



HD-Audio Configuration

HD-Audio Support

Enables/disables HDA Audio

Audio Output Selection

Selects audio output, from speaker out or line out.

LPSS Configuration

Selects I2C support mode.

PCI Express Configuration

Enables/disables PCI Express clock gating, Port8xh Decode, Peer Memory Write and Compliance mode, and configures PCI Express Root Port.

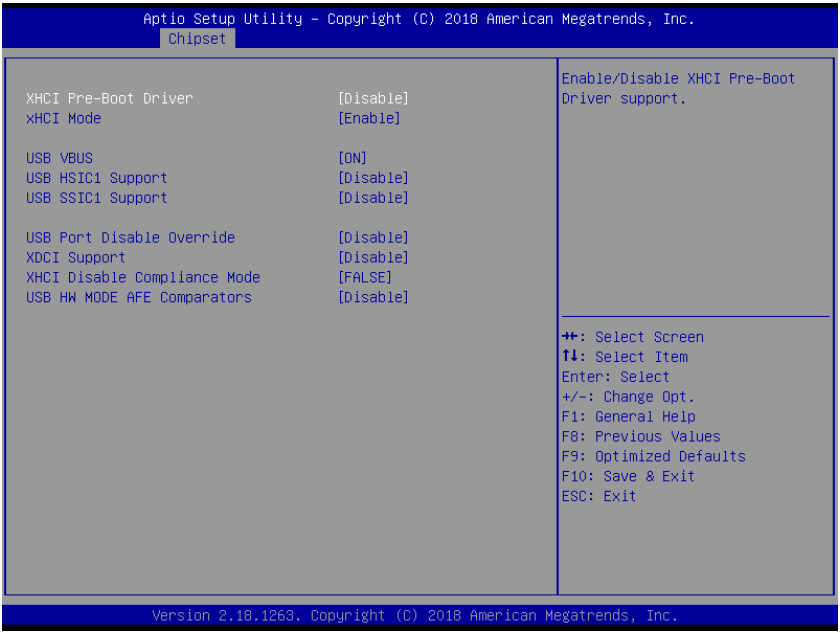
SATA Drives

Enables/disables Chipset SATA Controller, which supports the 2 black internal SATA ports (up to 3Gb/s supported per port), and configures SATA.

SCC Configuration

Enables/disables SCC eMMC support and selects eMMC max speed.

USB Configuration



XHCI Pre-boot Driver

Enables/disables XHCI pre-boot driver support.

XHCI Mode

Enables/disables XHCI mode.

USB VBUS

Turns USB VBUS on/off.

USB HIC1 Support

Enables/disables USB HIC1 support.

USB SSIC1 Support

Enables/disables USB SSIC1 support.

USB Port Disable Override

Enables USB disable override.

XDCI Support

Enables/disables XDCI support.

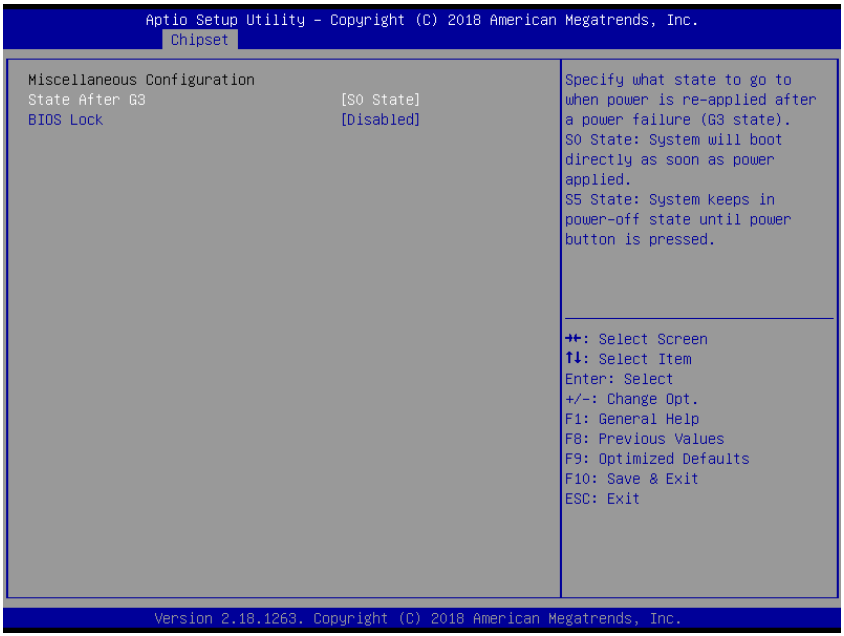
XHCI Disable Compliance Mode

Selects XHCI Disable Compliance Mode.

USB HW Mode AFE Comparators

Enables/disables mode AFE comparators.

Miscellaneous Configuration



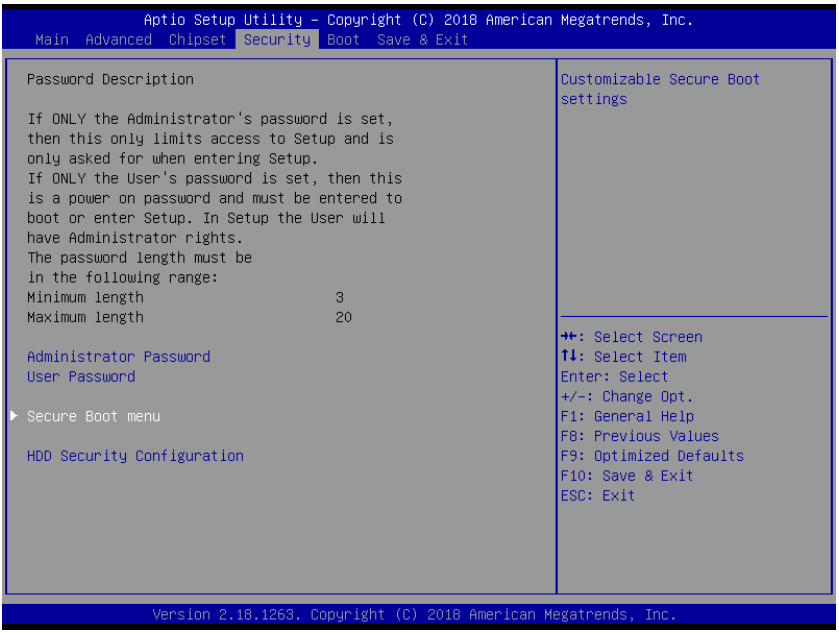
State After G3

Specifies the state to be entered when power is re-applied after a power failure (G3 state), from S0 state, in which the system boots directly when power is applied, and S5 state, in which the system remains powered down until the power button is pressed.

BIOS Lock

Enables/disables South Cluster BIOS Lock Enable, must be enabled to ensure SMM protection of flash.

5.4 Security



If only the Administrator password is set, access is limited and password requested on Setup.

If User password is set, it acts as power-on password and must be entered to boot or enter Setup.

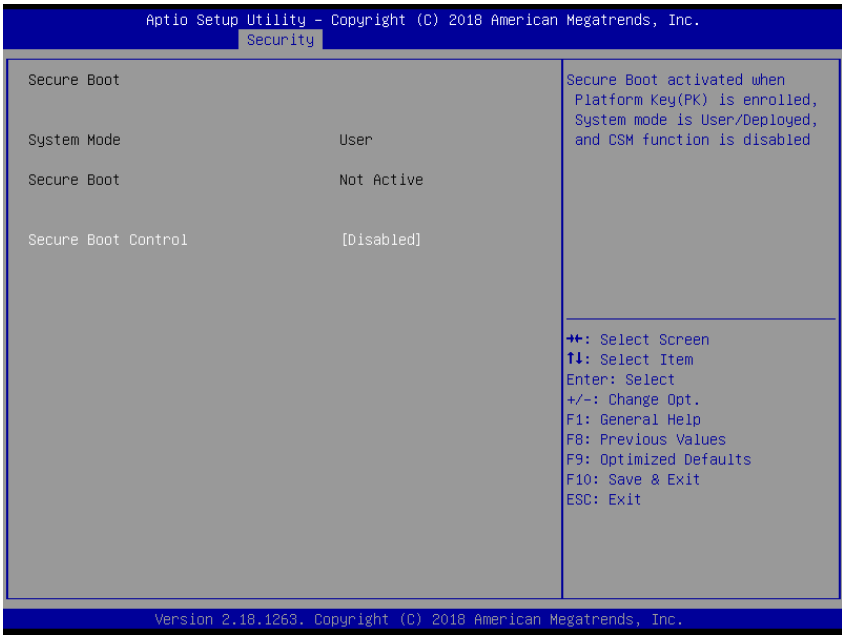
Administrator Password

Sets Administrator Password.

User Password

Sets User Password.

Secure Boot Menu



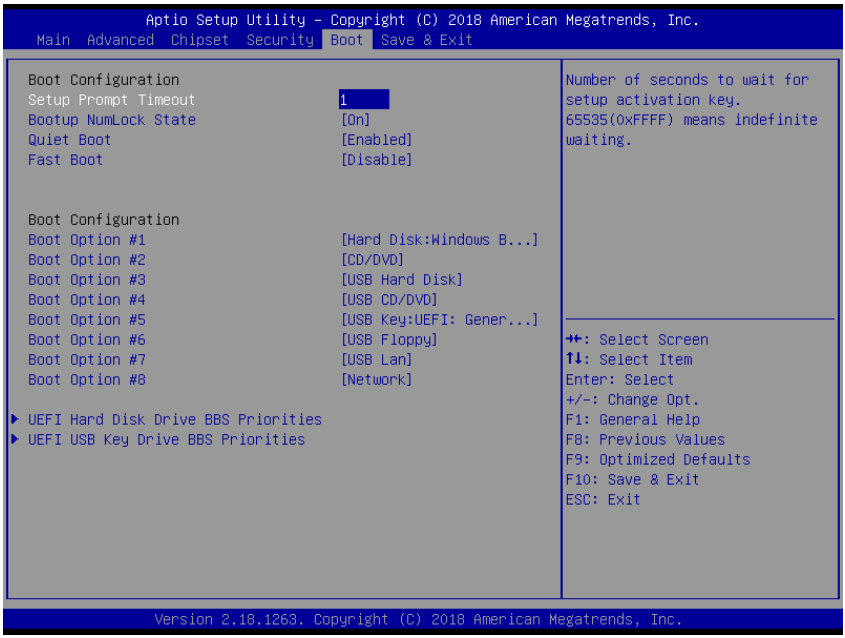
Secure Boot Control

Can be enabled if running in User mode with enrolled Platform Key (PK) and CSM disabled.

HDD Security Configuration

Configures HDD security

5.5 Boot



Setup Prompt Timeout

Sets the number of seconds before the setup activation key is launched, with 65535(0xFFFF) for indefinite wait.

Bootup Num-Lock State

Sets keypad Number Lock status following boot.

Quiet Boot

When disabled, directs BIOS to display POST messages, and when enabled, directs BIOS to display the OEM logo.

Fast Boot

When disabled, directs BIOS to perform all POST tests, and when enabled, directs BIOS to skip certain POST tests for faster Boot, with possibly reduced effectiveness.

Boot Configuration

Specifies the priority of boot devices, all of which are detected during POST and displayed. Target Boot Option # and select the desired device.

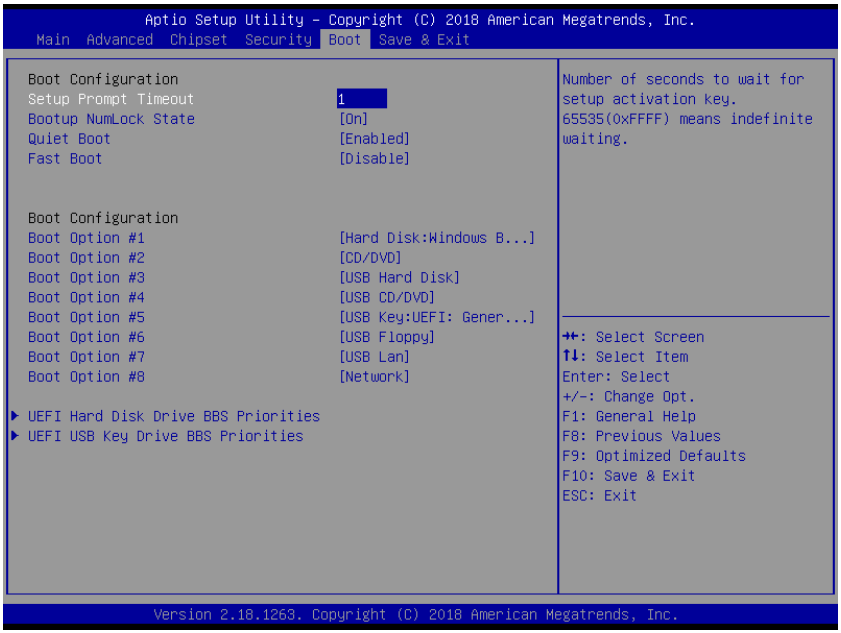
UEFI Hard Disk Drive BBS Priorities

Sets the system boot order.

UEFI USB Key Drive BBS Priorities

Sets the system boot order.

5.6 Save & Exit



Save Changes and Exit

Exits system setup after saving changes.

Discard Changes and Exit

Discards all changes and exits BIOS setup.

Save Changes and Reset

Saves all changes and reboots the system, with new settings taking effect.

Discard Changes and Reset

Resets system setup without saving any changes.

Save Changes

Saves changes made so far to any of the Setup options.

Discard Changes

Discards changes made so far to any of the Setup options.

Restore Defaults

Returns all BIOS options to default settings, maximizing system stability at less than maximum performance. Select if the computer encounters system configuration problems.

Save as User Defaults

Saves all changes to this point as user defaults.

Restore User Defaults

Restores user defaults to all setup options.

Launch EFI Shell from file system device

Attempts to launch EFI Shell application (Shell.efi) from an available filesystem device.

Setup Prompt Timeout

Sets the number of seconds before the setup activation key is launched, with 65535(0xFFFF) for indefinite wait.

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Important Safety Instructions

For user safety, please read and follow all instructions, Warnings, Cautions, and Notes marked in this manual and on the associated device before handling/operating the device, to avoid injury or damage.

- Read these safety instructions carefully
- Keep the User's Manual for future reference
- Read the Specifications section of this manual for detailed information on the recommended operating environment
- The Titan-15WP/21WP/24WP-VESA/PIPE-E3950 can be operated at ambient temperatures of 45ºC with 100- 240VAC input.
- When installing/mounting or uninstalling/removing device; or when removal of a chassis cover is required for user servicing (See "Getting Started" on page 15.):
  - *Turn off power and unplug any power cords/cables*
  - *Reinstall all chassis covers before restoring power*
- To avoid electrical shock and/or damage to device:
  - *Keep device away from water or liquid sources*
  - *Keep device away from high heat or humidity*
  - *Keep device properly ventilated (do not block or cover ventilation openings)*
  - *Always use recommended voltage and power source settings*
  - *Always install and operate device near an easily accessible electrical outlet*
  - *Secure the power cord (do not place any object on/over the power cord)*
  - *Only install/attach and operate device on stable surfaces and/or recommended mountings*
- If the device will not be used for long periods of time, turn off and unplug from its power source
- Never attempt to repair the device, which should only be serviced by qualified technical personnel using suitable tools

- A Lithium-type battery may be provided for uninterrupted backup or emergency power
- Ensure that the device connects to a socket/outlet with ground/earth connection..

Risk of explosion if battery is replaced with one of an incorrect type; please dispose of used batteries appropriately.
Risque d'explosion si la pile est remplacée par une autre de type incorrect. Veuillez jeter les piles usagées de façon appropriée.

- The device must be serviced by authorized technicians when:
  - *The power cord or plug is damaged*
  - *Liquid has entered the device interior*
  - *The device has been exposed to high humidity and/or moisture*
  - *The device is not functioning or does not function according to the User's Manual*
  - *The device has been dropped and/or damaged and/or shows obvious signs of breakage*
- Disconnect the power supply cord before loosening the thumbscrews and always fasten the thumbscrews with a screwdriver before starting the system up
- It is recommended that the device be installed only in a server room or computer room where access is:
  - *Restricted to qualified service personnel or users familiar with restrictions applied to the location, reasons therefor, and any precautions required*
  - *Only afforded by the use of a tool or lock and key, or other means of security, and controlled by the authority responsible for the location*

Consignes de Sécurité Importantes

S'il vous plaît prêter attention stricte à tous les avertissements et mises en garde figurant sur l'appareil, pour éviter des blessures ou des dommages.Avant de connecter le Titan-AL à une source de courant continu, veuillez vous assurer de la polarité de la tension conformément à l'entrée CC du Équipement Une tension et/ou une polarité incorrectes peuvent causer des dommages irréversibles sur le système.

- *Lisez attentivement ces consignes de sécurité*
- *Conservez le manuel de l'utilisateur pour pouvoir le consulter ultérieurement*
- *Lisez la section Spécifications de ce manuel pour des informations détaillées sur l'environnement d'exploitation recommandé*
- *Le Titan-15WP/21WP/24WP-VESA/PIPE-E3950 peut fonctionner à une température ambiante de 45ºC avec 100-240 VAC entrée.*
- *Lors de l'installation/montage ou de la désinstallation/suppression de l'appareil ; ou lorsque le démontage d'un couvercle de châssis est nécessaire pour l'entretien par l'utilisateur (Voir "Mise en route à la page 15").*
  - *Mettez l'appareil hors tension et débranchez tous les cordons/câbles d'alimentation*
  - *Réinstallez tous les couvercles de châssis avant de rétablir l'alimentation*
- *Pour éviter les chocs électriques et/ou d'endommager l'appareil:*
  - *Tenez l'appareil à l'écart de toute source d'eau ou de liquide*
  - *Tenez l'appareil à l'écart d'une forte chaleur ou d'une humidité élevée*
  - *Maintenez l'appareil correctement ventilé (n'obstruer ou ne couvrez pas les ouvertures de ventilation)*
  - *Utilisez toujours les réglages de tension et de source d'alimentation recommandés*
  - *Installez et utilisez toujours l'appareil près d'une prise de courant facilement accessible*

- *Fixez le cordon d'alimentation (ne placez aucun objet sur le cordon d'alimentation)*
- *Installez/fixez et utilisez l'appareil uniquement sur des surfaces stables et/ou sur les fixations recommandées*
- *L'équipement doit être connecté à une prise de courant avec mise à la terre*

- *Si l'appareil ne doit pas être utilisé pendant de longues périodes, éteignez-le et débranchez-le de sa source d'alimentation*
- *N'essayez jamais de réparer l'appareil, qui ne doit être réparé que par un personnel technique qualifié à l'aide d'outils appropriés*
- *Une batterie de type Lithium peut être fournie pour une alimentation de secours ininterrompue ou d'urgence.*
- *L'appareil doit être entretenu par des techniciens agrees lorsque:*
  - *Le cordon d'alimentation ou la prise est endommagé(e)*
  - *Un liquide a pénétré à l'intérieur de l'appareil*
  - *L'appareil a été exposé à une forte humidité et/ou de la buée*
  - *L'appareil ne fonctionne pas ou ne fonctionne pas selon le manuel de l'utilisateur*
  - *L'appareil est tombé et/ou a été endommagé et/ou présente des signes évidents de dommage*
- *Débranchez le cordon d'alimentation avant de desserrer les vis à oreilles et serrez toujours les vis à oreilles avec un tournevis avant de mettre le système en marche*
- *Il est recommandé d'installer l'appareil uniquement dans une salle de serveurs ou une salle informatique où l'accès est:*
  - *Réservé au personnel de service qualifié ou aux utilisateurs familiarisés avec les restrictions appliquées à l'emplacement, aux raisons de ces restrictions et toutes les précautions requises*
  - *Uniquement autorisé par l'utilisation d'un outil, d'une serrure et d'une clé, ou d'un autre moyen de sécurité, et contrôlé par l'autorité responsable de l'emplacement*

Getting Service

Ask an Expert: http://askanexpert.adlinktech.com

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