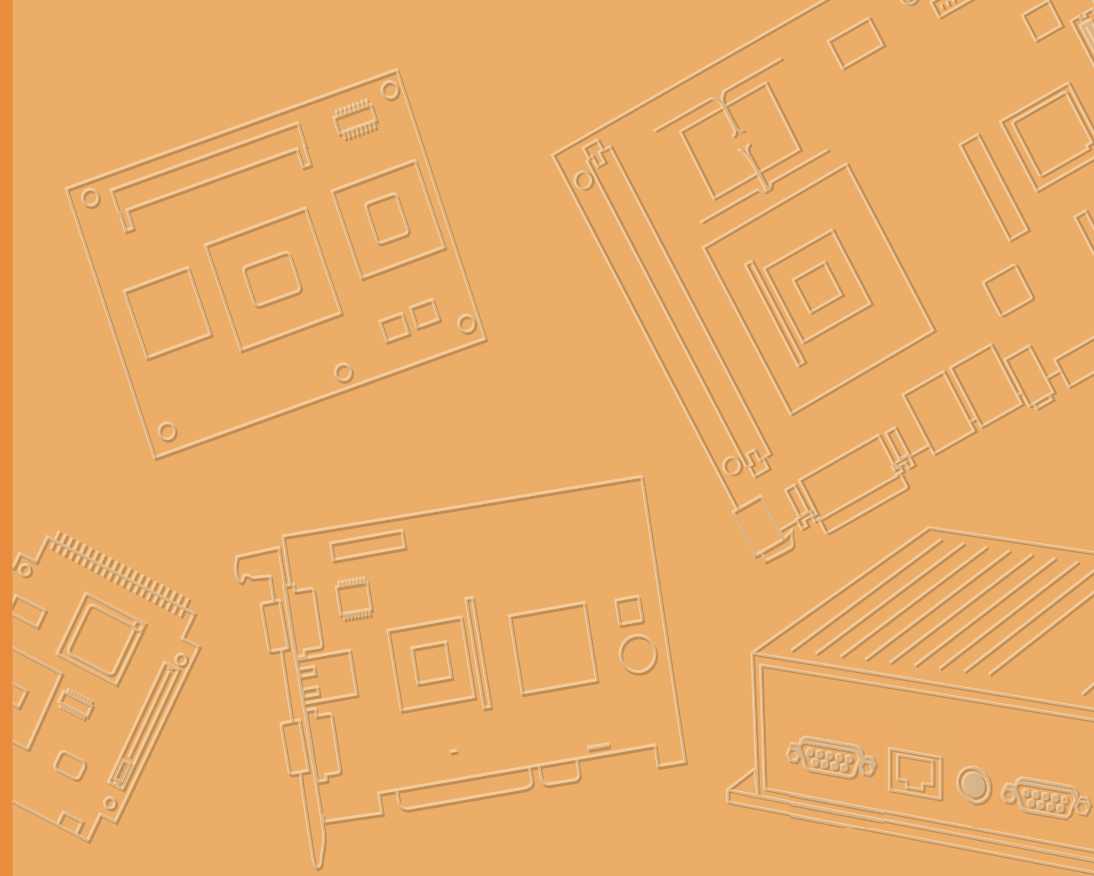


User Manual



TREK-60

**Modular AI Platform for Scalable
Surveillance and Fleet
Management**

ADVANTECH

Enabling an Intelligent Planet

Copyright

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Product Warranty (2 years)

Advantech warrants the original purchaser that all of its products will be free from defects in materials and workmanship for two years from the date of purchase.

This warranty does not apply to any products that have been repaired or altered by persons other than the repair personnel authorized by Advantech, or products that have been subject to misuse, abuse, accident, or improper installation. Advantech assumes no liability under the terms of this warranty for any consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced free of charge during the warranty period. For out-of-warranty repairs, customers are billed according to the cost of replacement materials, service time, and freight. Please consult your dealer for more details.

If you believe your product is defective, follow the steps outlined below.

1. Collect all the information about the problem encountered. (For example, CPU speed, Advantech products used, other hardware and software used, etc.) Note anything abnormal and list any onscreen messages displayed when the problem occurs.
2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.
3. If your product is diagnosed as defective, obtain a return merchandise authorization (RMA) number from your dealer. This allows us to process your return more quickly.
4. Carefully pack the defective product, a completed Repair and Replacement Order card, and a proof of purchase date (such as a photocopy of your sales receipt) into a shippable container. Products returned without a proof of purchase date are not eligible for warranty service.
5. Write the RMA number visibly on the outside of the package and ship the package prepaid to your dealer.

Declaration of Conformity

CE

This product has passed the CE test for environmental specifications when shielded cables are used for external wiring. We recommend the use of shielded cables. This type of cable is available from Advantech. Contact your local supplier for ordering information.

Test conditions for passing also include the equipment being operated within an industrial enclosure. In order to protect the product from damage caused by electrostatic discharge (ESD) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

FCC Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for assistance

Warnings, Cautions, and Notes

Warning! *Warnings indicate conditions that, if not observed, can cause personal injury!*



Caution! *Cautions are included to help prevent hardware damage or data losses.*



For example,

“Batteries are at risk of exploding if incorrectly installed. Do not attempt to recharge, force open, or heat the battery. Replace the battery only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.”

Note! *Notes provide additional optional information.*



Document Feedback

To assist us with improving this manual, we welcome any comments and constructive criticism. Please send all feedback in writing to support@advantech.com.

Technical Support and Assistance

1. Visit the Advantech website at <http://support.advantech.com> to obtain the latest product information.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before calling:
 - Product name and serial number
 - Description of your peripheral attachments
 - Description of your software (operating system, version, application software, etc.)
 - A complete description of the problem
 - The exact wording of any error messages

Safety Instructions

1. Read these safety instructions carefully.
Veuillez lire attentivement ce manuel d'instructions de sécurité.
2. Retain this user manual for future reference.
Veuillez conserver ce manuel d'instructions pour référence ultérieure.
3. Disconnect the equipment from all power outlets before cleaning. Use only a damp cloth to clean. Do not use liquid or spray detergents.
Débranchez l'appareil de toutes les prises de courant avant le nettoyage. Nettoyez-le uniquement à l'aide d'un chiffon humide. Ne pas utiliser de détergents liquides ou pulvérisateurs.
4. For pluggable equipment, the power outlet socket must be located near the equipment and easily accessible.
Pour les appareils enfichables, la prise de courant doit être placée près de l'appareil et facilement accessible.
5. Protect the equipment from humidity.
Protégez l'appareil contre l'humidité.
6. Place the equipment on a reliable surface during installation. Dropping or letting the device fall may cause damage.
Placez l'appareil sur une surface fiable pendant l'installation. L'abandon ou la chute de l'appareil pourrait causer des dommages.
7. Do not leave the equipment in an environment where the storage temperature is below -40 °C (-40 °F) or above 80 °C (175 °F) as it may damage the equipment. The operating temperature range depends on the specific model.
Ne laissez pas l'équipement dans un environnement où la température de stockage est inférieure à -40 °C (-40 °F) ou supérieure à 80 °C (175 °F) car cela pourrait endommager l'équipement. La plage de température de fonctionnement dépend du modèle spécifique.
 - For models with Intel® i7-7600U CPU and RF/SDP: -20 ~ 50 °C (-4 ~ 122 °F)
 - Pour les modèles avec processeur Intel® i7-7600U et RF / SDP: -20 ~ 50 °C (-4 ~ 122 °F)
 - For models with Intel® X5-E3940 CPU and RF/SDP: -30 ~ 50 °C (-22 ~ 122 °F)
 - Pour les modèles avec processeur Intel® X5-E3940 et RF / SDP: -30 ~ 50 °C (-22 ~ 122 °F)
 - For models with Intel® X5-E3940 CPU only: -30 ~ 70 °C (-22 ~ 158 °F)
 - Pour les modèles avec processeur Intel® X5-E3940 uniquement: -30 ~ 70 °C (-22 ~ 158 °F)
8. The openings on the enclosure are for air convection. Protect the equipment from overheating. Do not cover the openings.
Les ouvertures du boîtier sont pour la convection d'air. Protégez l'appareil contre la surchauffe. Ne couvrez pas les ouvertures.
9. Ensure that the voltage of the power source is of the correct voltage and is earthed before connecting the equipment to a power outlet.
Assurez-vous que la tension de la source d'alimentation est correcte avant de connecter l'appareil à une prise de courant. La prise de courant doit avoir une bonne connexion mise à la terre.
10. Position the power cord away from high-traffic areas. Do not place anything over the power cord. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
Placez le cordon d'alimentation à l'écart des zones à fort trafic. Ne placez rien sur le cordon d'alimentation. La tension et le courant du cordon doivent être supérieurs à la tension et au courant indiqués sur le produit.

11. All cautions and warnings on the equipment should be noted.
Attention à toutes les précautions et avertissements indiqués sur l'appareil.
12. If unused for a long time, disconnect the equipment from the power source to avoid damage from transient overvoltage.
Si l'appareil n'est pas utilisé pendant une longue période, déconnectez-le de la source d'alimentation pour éviter les dommages causés par une surtension transitoire.
13. Never pour liquid into an opening. This may cause fire or electrical shock.
Ne versez jamais de liquide dans une ouverture. Sinon, cela pourrait provoquer un incendie ou un choc électrique.
14. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
N'ouvrez jamais l'appareil. Pour des raisons de sécurité, l'appareil ne doit être ouvert que par un technicien qualifié.
15. If one of the following situations occurs, have the equipment checked by service personnel:
Si l'un des cas suivants se produit, demandez aide à un technicien qualifié:
 - The power cord or plug is damaged.
Le cordon d'alimentation ou la fiche est endommagé.
 - Liquid has penetrated the equipment.
Le liquide a pénétré dans l'appareil.
 - The equipment has been exposed to moisture.
L'appareil a été exposé à l'humidité.
 - The equipment is malfunctioning or does not operate according to the user manual.
L'appareil est défectueux ou ne fonctionne pas conformément aux instructions.
 - The equipment has been dropped and damaged.
L'appareil a été abandonné et endommagé.
 - The equipment shows obvious signs of breakage.
L'appareil montre des signes évidents de rupture.
16. Any unverified component could cause unexpected damage. To ensure correct installation, always use the components provided in the accessory box.
Tout composant non vérifié peut provoquer des dommages inattendus. Pour garantir une installation correcte, utilisez toujours les composants fournis dans la boîte d'accessoires.
17. CAUTION: Batteries are at risk of exploding if incorrectly replaced. Replace only with the same or equivalent type as recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions.
ATTENTION: Il y a danger d'explosion s'il y a rem placement incorrect de la pile. Remplacer uniquement avec une pile du même type ou d'un type equivalent recommandè par le constructeur.
18. CAUTION: This product is not intended for use by children and is not suitable for use in locations where children are likely to be present (this product is not a toy).
ATTENTION: Ce produit n'est pass un jouet et devrait ètregard Jouet et devrait être gardè hors de la portée des enfants.

19. **CAUTION:** Always ground yourself to remove any static charge before touching the motherboard, backplane, or add-on cards. Modern electronic devices are very sensitive to static electric charges. As a safety precaution, use a grounding wrist strap at all times. Place all electronic components on a static-dissipating surface or in a static-shielded bag when not installed in the chassis.
- ATTENTION:** Mettez-vous toujours à la terre pour éliminer toute charge statique avant de toucher la carte mère, le fond de panier ou les cartes d'extension. Les appareils électroniques modernes sont très sensibles aux charges électriques statiques. Par mesure de sécurité, utilisez en tout temps un bracelet antistatique. Placez tous les composants électroniques sur une surface dissipant l'électricité statique ou dans un sac blindé antistatique lorsqu'ils ne sont pas dans le châssis.

Safety Precautions - Static Electricity

Follow these simple precautions to protect yourself from harm and the products from damage:

Suivez ces précautions simples pour vous protéger contre les dommages et protéger les produits contre les dommages:

- To avoid electrical shock, always disconnect the power from the PC chassis before manual handling. Do not touch any components on the main board or cards while the system is powered on.
Pour éviter tout choc électrique, débranchez toujours l'alimentation du châssis du PC avant toute manipulation manuelle. Ne touchez aucun composant de la carte principale ou des cartes lorsque le système est sous tension.
- Disconnect the power before implementing any configuration changes. A sudden surge of power after connecting a jumper or installing a card may damage sensitive electronic components.
Débranchez l'alimentation avant d'appliquer des modifications de configuration. Une surtension soudaine après la connexion d'un cavalier ou l'installation d'une carte peut endommager les composants électroniques sensibles.

Warning!



1. **Rated input voltage:** 9 ~ 32 VDC (12/24V power system)
Tension d'entrée nominale: 9 ~ 32 VDC (système d'alimentation 12 / 24V)
2. **Transport:** Carry the unit with both hands and handle with care
Transport: portez l'appareil à deux mains et manipulez-le avec précaution
3. **Maintenance:** Use only a damp cloth to clean the surfaces
Entretien: utilisez uniquement un chiffon humide pour nettoyer les surfaces
4. **Battery/Micro SD/SIM card/SSD:** Power off the equipment before installing or removing any peripherals
Batterie / Micro SD / Carte SIM / SSD: Éteignez l'équipement avant d'installer ou de retirer des périphériques
5. **This product is intended to be supplied by a UL-certified power supply or DC power source rated 9 ~ 32 VDC, 14A, with a TMA of 40 °C (104 °F) minimum. Should you require additional assistance, contact Advantech for further information.**
Ce produit doit être certifié par UL pour l'alimentation électrique ou en courant continu, Tension nominale 9 ~ 32 VDC, 14A, et TMA 40 °C (104 °F), contactez si vous avez besoin d'aide Advantech en sait plus.

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Chapter 1

General Information

1.1 Introduction

Advantech's TREK-60 is a rugged, modular video AI platform aimed at fleet management and surveillance applications.

Powered by a 7th generation Intel® Core™ i7/i5/Atom™ E3900 quad-core processor, TREK-60 supports up to eight camera input channels and AI accelerator expansion to enable scalable video inferences on edge devices. The provision of an RF extension module with automotive-grade FAKRA connector supports GNSS, WLAN, Bluetooth, and WWAN technology to enable real-time communication, vehicle tracking, and data collection. Moreover, the embedded dual CAN bus supports diverse vehicle protocols, including raw CAN, J1939, and OBD-II, for vehicle monitoring and diagnostics, while the intelligent vehicle power management system supports ignition on/off/delay and wake-up event control. Furthermore, to ensure easy integration and connection with vehicle systems, TREK-60 features multiple digital I/O with wet and dry configurations, two 4-wire RS-232/RS-485 ports, and two 2-wire RS-232 ports, as well as dual audio codec packs.

1.2 Key Features

- Intel® Atom™ E3900/Core™ i7/i5 processor
- RF extension module with automotive-grade connector (FAKRA) enables easy installation and customization
- Modular I/O expansion facilitates the integration of edge AI modules, 5G communication, and DSRC/V2X devices
- Eight 802.3at PoE IP camera ports for video surveillance applications
- GNSS, WLAN, Bluetooth, and WWAN communication technology
- Easily paired with second-generation TREK displays via a single cable
- Accessible external SSD tray with key-lock protection
- Supports 12/24V input power (ISO 7637-2) with intelligent power management that supports ignition on/off/delay functions, wake-up event control, and system monitoring and diagnostics
- Wide operating temperature range (-30 ~ 70 °C/-22 ~ 158 °F)
- MIL-STD-810G and EN60721-3(5M3) certified for shock and vibration tolerance

1.3 Modular Design

TREK-60 consists of an industrial computer with a ruggedized metal enclosure and RF and IO extension modules that enable flexible expansion and integration with existing infrastructure. The modular design allows TREK-60 to be easily customized for entry-level or high-end computing applications.



Figure 1.1 TREK-60 Architecture

Table 1.1: TREK-60 Modular Design SKU			
	TREK-60 SKU1	TREK-60 SKU2	TREK-60 SKU2 without RF and SDP
Platform (blue components)	Intel® Core™ i7/i5 ■ CPU: i7-7600U ■ Memory: DDR4	Intel® Atom™ E3900 ■ CPU: X5-E3940 ■ Memory: DDR3L	Intel® Atom™ E3900 ■ CPU: X5-E3940 ■ Memory: DDR3L
Surveillance (red components)	8 IPCAM channels ■ 8 ports RJ-45 ■ 2.5" SSD tray	8 IPCAM channels ■ 8 ports RJ-45 ■ 2.5" SSD tray	8 IPCAM channels ■ 8 ports RJ-45 ■ 2.5" SSD tray
Other features	■ External RF module ■ SDP port ■ GPS	■ External RF module ■ SDP port ■ GPS	N/A

1.4 General Specifications

Platforms

- Intel Apollo Lake Platform (APL):
 - Processor: Intel® Atom™ X5-E3940 quad-core, 1.9 GHz
 - Memory: 1 x SODIMM socket, supports up to 8 GB of DDR3L 1866/1600 (default configuration: 1 x 4 GB)
 - Graphics: Intel® HD Graphics 500
 - BIOS: AMI UEFI (64 Mbit) on CPU
- Intel Kaby Lake Platform (KBL):
 - Processor: Intel® Core™ i7-7600U dual-core 3.9 GHz
 - Memory: 2 x SODIMM socket, supports up to 32 GB of DDR4 2133 (default configuration: 1 x 4 GB)
 - Graphics: Intel® HD Graphics 620
 - BIOS: AMI UEFI (64 Mbit) on CPU

OS: Windows 10 IoT Enterprise LTSC, 64 bit (default), Ubuntu 18.04, 64 bit

Storage

- 1 x internal mSATA slot (default) supports up to 64 GB UMLC industrial-grade storage (32 GB UMLC as default)
- 1 x externally accessible 2.5" SSD tray (maximum height 9.5 mm) with key-lock protection, supports an optional TLC industrial-grade SSD up to 3.84 TB
- 1 x externally accessible micro SD card reader (optional) with push-push mechanism and key-lock protection, supports an optional SDHC Class 10 UHS-I MLC industrial-grade SD card, up to 128 GB (available upon request)

Display (Graphical Output)

- 1 x DisplayPort 2.0 (for direct pairing with a second generation TREK display via a single-cable connection) with hot plug detection via a GT32-10-pin automotive connector:
 - 12V/2.0A power output for the TREK-306 (1024 x 768 default resolution) and TREK-303 (800 x 480 default resolution) displays
 - 1 x High-resolution video and audio input
 - 1 x USB 2.0
 - 1 x Power button
 - 1 x Reset button
- 1 x HDMI 1.3

Expansion

- 1 x internal full-size mini-PCIe slot for optional expansion
- 1 x external RF extension module
- 1 x external I/O extension module (optional)

Sensors

- 1 x G-sensor; linear acceleration zero-g level offset accuracy is ± 40 mg
- 1 x Accelerometer and gyroscope
- 3 x Thermal sensors reserved (for CPU, top side of main board, and underside of main board)

I/O Interface

- Virtual I/O via GT25, 16-pin, automotive connector:
 - 2 x CAN bus (supports RAW CAN, J1939, OBD-II/ISO 15765; configurable via firmware)
 - 1 x J1708 (supports J1587)
 - 1 x Ignition and BAT power input
- Generic I/O via GT25, 40-pin, automotive connector:
 - 2 x 4-wire RS-232 (default) and RS-485 (switchable in BIOS)
 - 2 x 2-wire RS-232
 - 6 x Digital input with 2.5 kV isolation
 - Wet/dry configuration via SDK (default for all ports is dry contact)
 - Low is up to 1.3V; High is at least 4V; maximum is 36VDC
 - 4 x Digital output with 2.5 kV isolation
 - Output current up to 48V/300mA maximum
 - 2 x Line out
 - 2 x Mic in
- Standard I/O:
 - 2 x USB 2.0 host at the rear
 - 1 x USB 3.0 host at the front with key-lock protection
 - 2 x GigaLAN (default RJ-45 connector, optional M12 X-coded connector)
- LED: 5 x LED, Power (red), Storage (yellow), WLAN (green), WWAN (green), and GPS (yellow)
- Buttons:
 - 1 x Power button on second generation TREK display (power on ignition as default)
 - 1 x Clear CMOS button with key-lock protection
 - 1 x Reset button with key-lock protection

Video Surveillance

- IP Camera:
 - 8 x RJ-45 for 10/100Mbps
 - Supports IEEE802.3af Class 2 (7 W), Class 3 (15.4 W), IEEE802.3at Class 4 (30 W)
 - Power output shared with all cameras limited to 61.6W
 - SDK support for PoE control

RF (WLAN/WWAN Support via RF Extension)

- 1 x full-size mini PCIe slot, supports IEEE 802.11a/b/g/n/ac and Bluetooth V5.0 (combo module as default)
- 1 x full-size mini PCIe slot, supports WWAN (LTE, HSPA+, GSM/GPRS) module for US/EU bands (Sierra wireless WP7607 for EU and WP7610 for US as default)
- 1 x externally accessible mini SIM card socket (with cover), or 1 x optional embedded SIM available upon request
- 1 x Built-in u-blox Neo-M8N GPS/GLONASS/BeiDou module with A-GPS support, or optional Neo-M8U (untethered dead reckoning), Neo-M8L (dead reckoning) upon request
- 5 x FAKRA-type antenna holes for 1x GPS, 2x WI-FI+BT, 2x WWAN/LTE with WI-FI/WWAN MIMO supported

RTC Battery

3.0V @ 200 mAH lithium battery

Watchdog Timer

255-level timer interval, setup by IVCP SDK

Power System

- Supports 12/24V power system (ISO 7637-2 and SAE J1113 compliance)
- Intelligent Power Management (IVCP FW):
 - System power on/off/hibernate management (programmable ignition on/off/delay)
 - Supports wake-up events: wake-on-alarm (RTC), wake-on-call/SMS, and wake-on-G-sensor
 - System power protection (battery low voltage protection)
 - System monitoring and diagnostics
 - System power usage management (Table 1.3)
 - Optional features power usage table (for reference only) (Table 1.4)

Table 1.2: Power Input and Output

Input Power	Description	Remark
Input 12 ~ 32V	Supports platform and POE	Note 1
Input 9 ~ 12V	Supports platform power only	Note 2

Note 1: Supports platform and PoE power management via IVCP firmware

Note 2: Does not support PoE function when input power is 9 ~ 12V

Mechanical Design

- Aluminum chassis with IP54-rated ingress protection; IP65-rated protection available with extended I/O cover (depending on specific I/O ports)
- Dimensions (W x D x H): 314 x 165.5 x 75.1 mm/12.36 x 6.51 x 2.95 in
- Weight: (without SSD) 4.3 kg/9.47 lb; (without SSD or RF extension module) 3.8 kg/8.37 lb

Environmental Specifications

- Operating Temperature:
 - -20 ~ 50 °C/-4 ~ 122 °F for TREK-60 SKU 1
 - -30 ~ 50 °C/-22 ~ 122 °F for TREK-60 SKU 2
 - -30 ~ 70 °C/-22 ~ 158 °F for TREK-60 SKU 2 (without RF/SDP or 40W PoE limit)
- Storage Temperature: -40 ~ 85 °C/-40 ~ 176 °F
- Relative Humidity: 95% @ 40 °C/104 °F (non-condensing)
- Vibration and Shock Tolerance: MIL-STD-810G, EN60721-3(5M3), SAE J1455,
- IP Rating: IP54 or IP65 with optional I/O cover (available upon request)
- Power Regulation: E-Mark (E13), SAE J1455, ISO-7637-2, SAE J1113
- Safety:
 - UL 60950, CSA 60950, IEC/EN 60950 (certified temperature 40 °C/104 °F)
 - UL 62368-1, CSA 62368-1, IEC/EN 62368-1 (certified temperature 50 °C/122 °F and 70 °C/158 °F)

- EMC:
 - Emissions: FCC Part 15 Subpart B Class A, IC ICES-003 Class A, EN 55032 Class A, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3
 - Immunity: EN 55035, EN 61000-6-2/EN 61000-6-4

Power Consumption

Table 1.3: Power Consumption for Intel® Core™ i7-7600U CPU Model

Mode	PoE Loader	SDP2.0	Without SDP2.0
Power off	NA	0.096W	0.096W
Idle	0W	34.9W	19.7W
Burn-in	0W	63.6W	47.5W
	30W	96.6W	80.5W
	60W	129.6W	113.5W

Table 1.4: Power Consumption for Intel® Atom™ E3940 CPU Model

Mode	PoE Loader	SDP2.0 12/24V	Without SDP2.0 12/24V
Power off	NA	0.096W	0.096W
Idle	0W	34.1W/31.7W	16.7W/17.8W
Burn-in	0W	40.7W/37.7W	22.3W/23.5W
	30W	73.7W/70.7W	55.3W/56.5W
	60W	106.7W/103.7W	88.3W/89.5W

Note 1: The converter efficiency is 90 ~ 95%. Thus, if the PoE loader setting is 30W, the input power must be at least 33W (for sufficient power at 90% efficiency).

Note 2: The system tested was a TREK-60 platform equipped with 32 GB UMLC mSATA, u-Blox NEO-M8N, RF extension module with Wi-Fi and WWAN, SDP 2.0, and a TREK-306PH2 display.

Note 3: Tested at an environmental temperature of 25 °C/77 °F.

Note 4: Burn-in setting test items: CPU, memory, 2D/3D GPU, video, and SSD.

1.5 Dimensions

Unit: mm

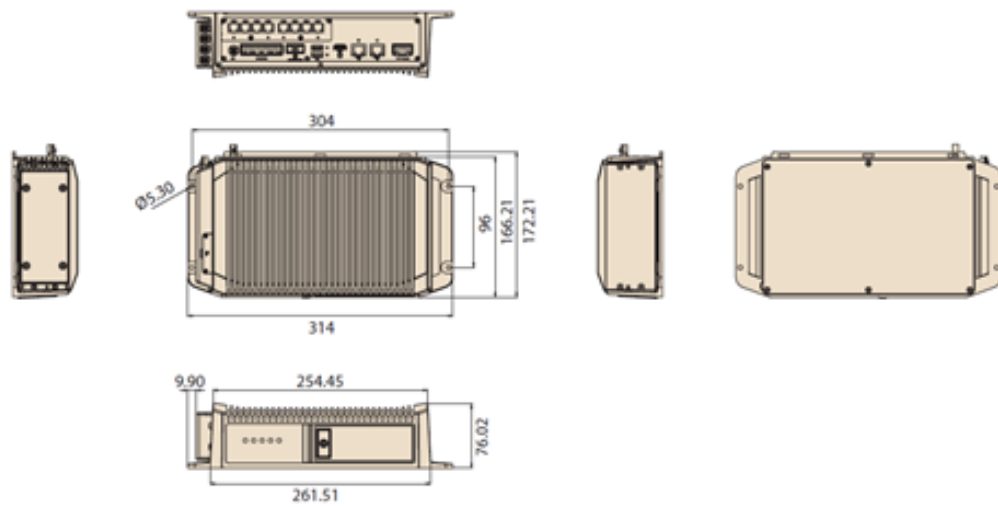


Figure 1.2 TREK-60 Dimensions

Chapter 2

System Setup

2.1 Introduction

This chapter explains the connector and port pin definitions and provides information regarding setting up the TREK-60 device.

2.2 Quick Tour



Figure 2.1 TREK-60 Front View



Figure 2.2 TREK-60 Rear View (PoE Configuration)



Figure 2.3 TREK-60 Front Door with Key Lock Protection



Figure 2.4 TREK-60 Front I/O



Figure 2.5 TREK-60 RF Extension Module



Figure 2.6 TREK-60 I/O View (with PoE)

2.3 Installation

To install the device, first connect the TREK-60 power input port to the vehicle ignition system. The power cable should be connected directly to the battery. This allows TREK-60 to be powered on/off via the device power button or vehicle ignition signals.

Note! *TREK-60 supports 12/24 VDC input power.*



The default setting is 9 ~ 32 VDC.

2.3.1 Connecting the Power Cord

Connect the VI/O cable to the TREK-60 VI/O connector. At the open-wire end, one pin marked “+” is reserved for positive voltage and must be connected to the “+” connector on the power side; one pin marked “-” is reserved for grounding and must be connected to the “-” connector on the power side. Finally, one pin marked “ignition” is reserved for ignition signals.

Note! *Ignition on/off setting: TREK-60 supports ignition on/off function, which allows the device to be powered on/off via the vehicle ignition signals.*



Connector Part Number: GT25H2-16DP-2.2H, HRS 775-0089-4

Plug Part Number: GT25-16DS-HU/R / GT25H-2024SCF

2.3.2 Wake-On-Ignition

For the wake-on-ignition function, there is a 5 second delay from when the vehicle ignition is turned on to the TREK-60 device being powered on. This is designed to ameliorate the impact of power fluctuations, which could damage the device.

2.3.3 Wall and DIN Rail Mounting

The TREK-60 device can be mounted on a wall or DIN rail in various configurations, as shown in Table 2.1. The device should be fully assembled before mounting. To mount TREK-60, use four M5x10L screws to affix the device to a wall mount bracket, or use four M3x5L screws to affix the device to a DIN rail bracket).

Note! Use suitable mounting apparatus and orientation to avoid personal injury.
 Utilisez un montage et une direction appropriés pour éviter tout risque de blessure.

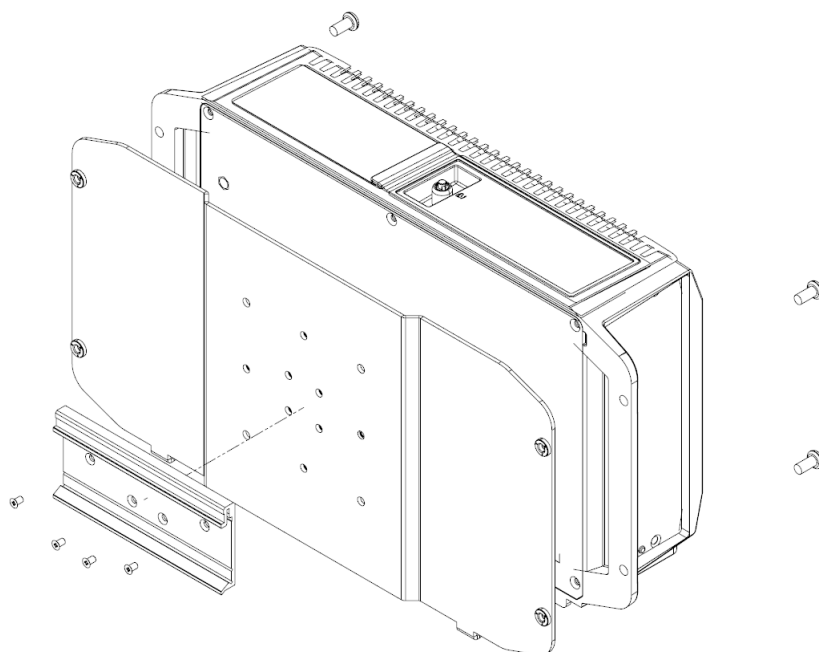
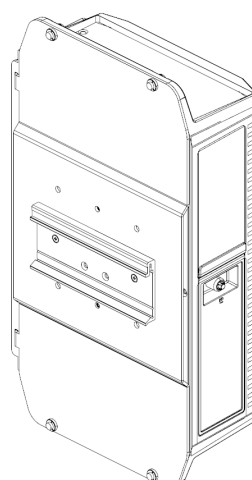
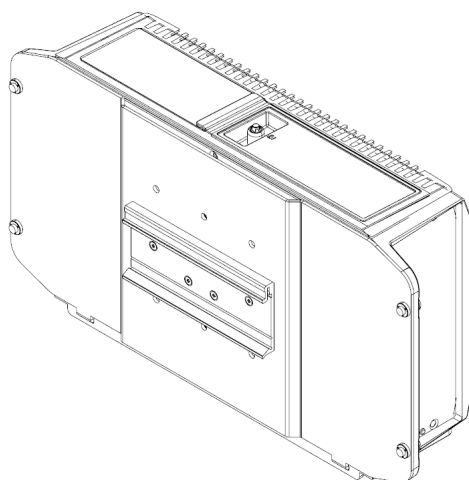
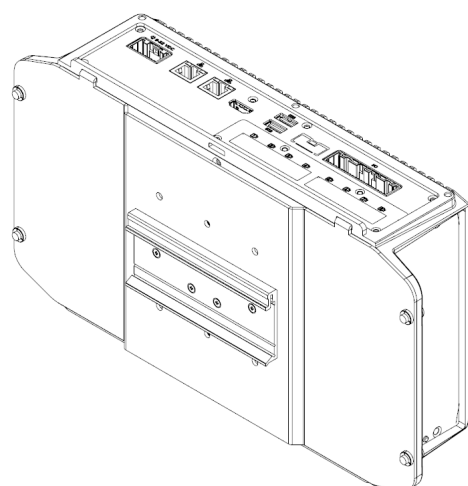
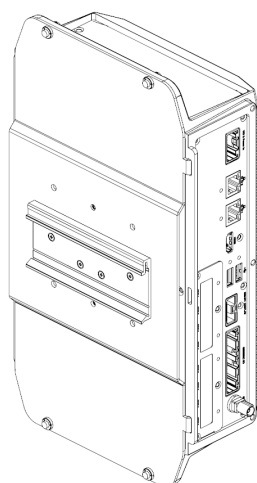


Figure 2.7 TREK-60 Wall and DIN Rail Mounting

Table 2.1: Wall Mount Bracket Orientations**Mode 1: Downward facing I/O****Mode 2: Right facing I/O****Mode 3: Left facing I/O****Mode 4: Upward facing I/O**

2.4 BIOS Setup

In most cases, the computer will have been set up and configured by the dealer or system integrator prior to delivery. However, it may still be necessary to adjust some of the BIOS settings to adjust the system configuration data, such as the current date/time or the specific hard drive type installed.

The BIOS Setup program is stored in read-only memory (ROM) and can be accessed after powering on the computer or after a system reset by pressing the “Delete” key upon bootup.

The BIOS settings are recorded in a special area of memory called CMOS RAM. This memory is backed up by a battery to ensure they are retained when the system is powered off. When the device is powered on, the system reads the BIOS settings stored in CMOS RAM and compares them to the results of the equipment check conducted during the power on self-test (POST). If a discrepancy is detected, an error message is displayed onscreen, and the user is prompted to run the BIOS setup program.



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