



2025 — 2026 Edition

# INTELLIGENT TRANSPORTATION SOLUTIONS



**iBASE**  
[www.ibase.com.tw](http://www.ibase.com.tw)

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# About IBASE

|                                                                                                                          |                                                                                                                                            |                                                                                                                                                              |                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br><b>HQ</b><br><b>Taipei, Taiwan</b>  | <br><b>Stock Code</b><br><b>TPEX 8050</b><br>(Since 2003) | <br><b>Chairman</b><br><b>C. S. Lin</b>                                     | <br><b>Design and Manufacturing of Robust Computing Platforms</b> |
| <br><b>Capital</b><br><b>US\$ 66.2M</b> | <br><b>Revenue</b><br><b>US\$ 161M</b><br>(2024)          | <br><b>Employees</b><br><b>1,010</b><br>(Group)<br><b>770</b><br>(IBASE HQ) |                                                                                                                                                      |

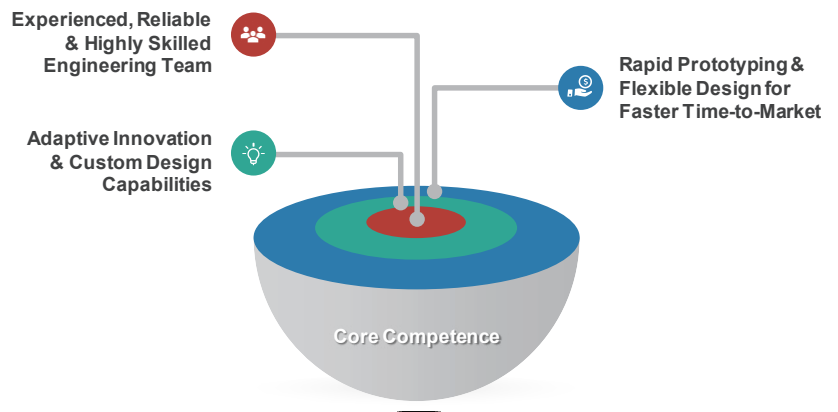
## Company Profile

IBASE Technology specializes in the design and manufacture of robust industrial PC products and has been serving the global market since its establishment in 2000. All manufacturing and quality control operations are conducted in IBASE's own facilities in Taiwan, which are certified to ISO 9001, ISO 13485, ISO 14001, and ISO 27001 standards. The company's current product offerings include x86 and RISC-based industrial motherboards, embedded systems, Edge AI computers, panel PCs, network appliances, and digital signage players. IBASE is publicly listed on the Taipei Exchange (TPEX: 8050) and has become a leading global provider of innovative industrial and embedded computing solutions.



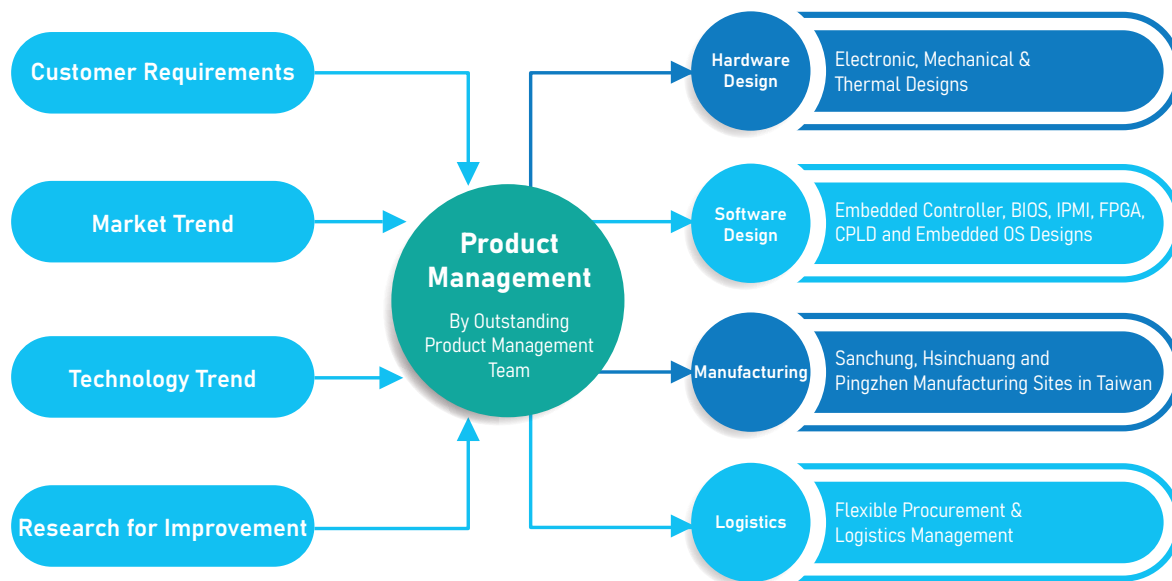
## Core Competence – R&D Design Capabilities

IBASE excels in delivering advanced R&D design capabilities through a team of experienced, reliable, and highly skilled engineers. Our core expertise lies in adaptive innovation and customized design solutions tailored to diverse industry requirements. By leveraging rapid prototyping and flexible design processes, we help customers accelerate time-to-market and gain a competitive edge in today's fast-evolving technology landscape. From concept to completion, IBASE prioritizes precision, efficiency, and reliability—making us a trusted partner for businesses seeking advanced industrial computing solutions.



# Design<sup>+</sup>, Manufacture<sup>+</sup>, Service<sup>+</sup>

Established to become a leading global provider of embedded board and system solutions, IBASE manufactures and supplies cutting-edge products based on the latest technologies to meet market demands. Our R&D and product management teams have the expertise to design and develop innovative products that meet customer requirements and design specifications. We place great importance on research and development, investing heavily in manpower and resources to consistently deliver high-quality, innovative products. IBASE is also committed to environmental compliance by working to prevent pollution through the avoidance of banned or restricted substances in our production processes and products, helping our customers address their environmental challenges.



## IBASE Manufacturing Sites

### IBASE Manufacturing Sites in Taiwan



18,481 m<sup>2</sup> / 5,591 Ping

#### Pingzhen

- Board Production
- System Assembly
- Validation



6,070 m<sup>2</sup> / 1,840 Ping

#### Xinzhuang

- System Assembly
- Validation



3,124 m<sup>2</sup> / 945 Ping

#### Sanchong

- Board Production
- Validation

#### Total Size

**297,891 Square-feet**  
(27,675 m<sup>2</sup> / 8,376 Ping)

#### Capacity

- SMT Line x 7
- DIP Assembly Line x 4
- System Assembly Line x 10
- Cleanroom x 2
- Burn-in Room x 20

#### PCBA

**80K/month**

In-house Production+  
Outsourcing

#### System Assembly

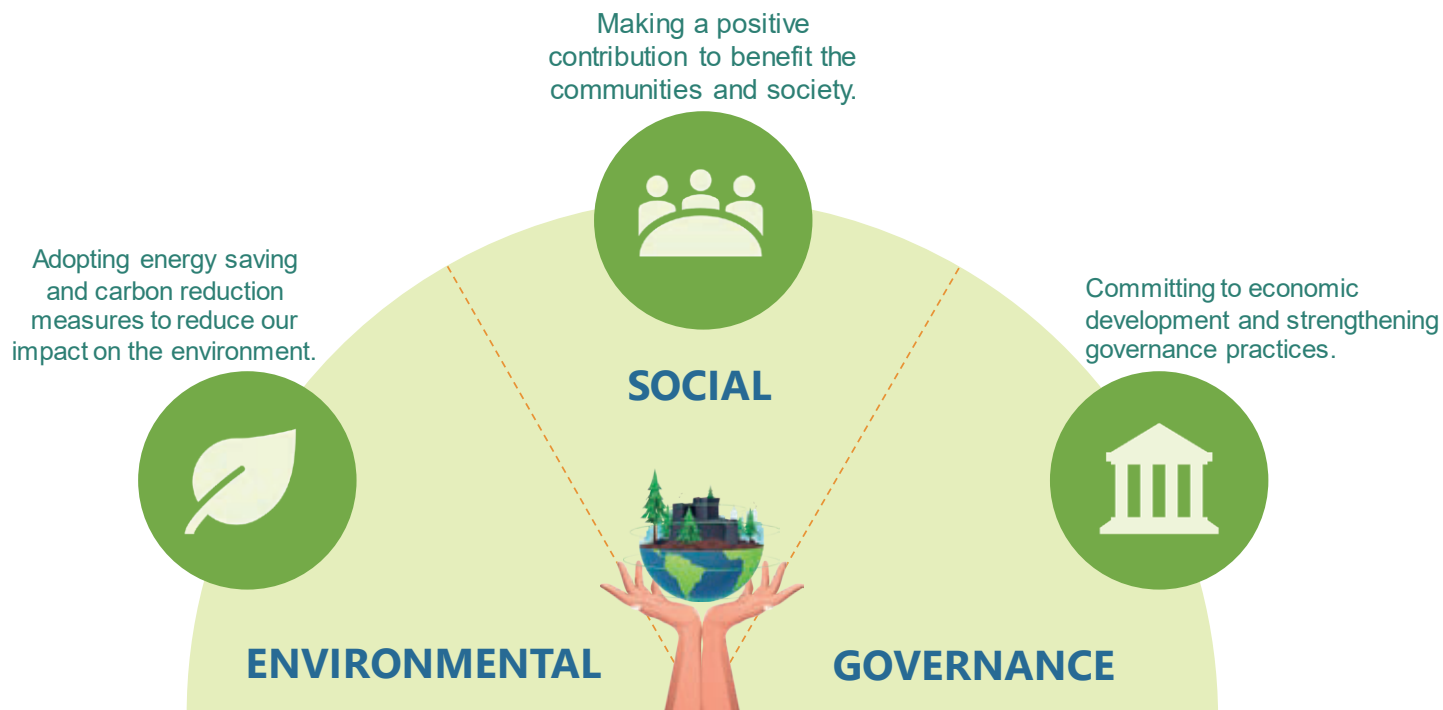
**50K/month**

In-house Production+  
Outsourcing

#### Certifications



# Our ESG Commitments



## Sustainable Development Goals (SDGs)

| Aspects                                                                                                     |  | SDGs Advocated by United Nations                                                                                                |                                                                                                                                          |                                                                                                                         |
|-------------------------------------------------------------------------------------------------------------|--|---------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| <br><b>SOCIAL</b>        |  | <br><b>1 NO POVERTY</b>                      | <br><b>4 QUALITY EDUCATION</b>                       | <br><b>5 GENDER EQUALITY</b>       |
| <br><b>GOVERNANCE</b>    |  | <br><b>8 DECENT WORK AND ECONOMIC GROWTH</b> | <br><b>9 INDUSTRY, INNOVATION AND INFRASTRUCTURE</b> | <br><b>10 REDUCED INEQUALITIES</b> |
| <br><b>ENVIRONMENTAL</b> |  | <br><b>7 AFFORDABLE AND CLEAN ENERGY</b>     | <br><b>12 RESPONSIBLE CONSUMPTION AND PRODUCTION</b> | <br><b>13 CLIMATE ACTION</b>       |

# IBASE Intelligent Transportation Solutions



Intelligent transportation solutions offer effective traffic management and mobility management through continuous monitoring of traffic conditions, traffic flow control, and timely delivery of accurate road and traffic-related information to drivers and commuters. These solutions contribute to resolving road safety issues by empowering users with better information, enabling them to make safer and smarter use of transportation networks.

IBASE is a global leader in the manufacture of reliable and multi-functional computer systems and panel PC products. Our intelligent transportation solutions are designed with robust industrial-grade electronics to ensure road safety and are well-suited for harsh environments, providing uninterrupted operation with high reliability. We offer a comprehensive range of intelligent transportation PC solutions, including EN50155:2017 and E-mark certified computers and panel PCs designed for railway and in-vehicle applications. We also have a wide range of motherboards, embedded systems, and touch panel PCs from 4" to 21.5" for deployment in various intelligent transportation applications such as traffic information management, automatic fare collection, real-time parking management, passenger information system, and driver's console HMI.

## Global Deployment of Secure and Energy-Saving Intelligent Transportation Solutions

IBASE's intelligent transportation solutions are deployed worldwide, providing safe, comfortable, and efficient travel for commuters. Our secure and energy-saving solutions are designed to meet the challenges of the transportation industry, ensuring reliable performance in harsh environments. With certifications such as EN50155/EN45545 and E-mark, our products are compliant with industry standards and regulations, ensuring high quality and reliability.

## Customized Solutions to Meet Application-Specific Needs

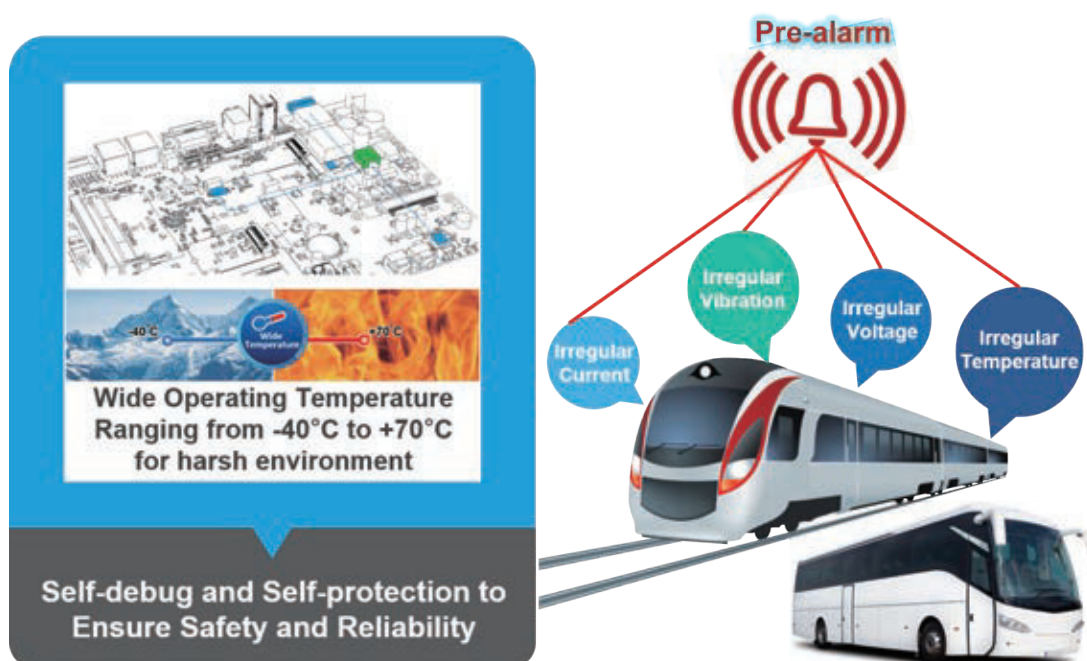
In addition to our standard products, IBASE provides ODM (Original Design Manufacturer) and JDM (Joint Design Manufacturer) services, as well as customized product solutions. With a team of highly qualified expert engineers, we can tailor products to meet the specific needs of our customers' applications, delivering high quality, reliability, and longevity. Our one-stop shopping services provide convenience and efficiency to our valued clients, allowing them to find comprehensive solutions for their transportation needs.

## Strategic Partnership with Intel for Unprecedented Performance

IBASE has established a strategic partnership with Intel in product development, leveraging their cutting-edge technology to create embedded computing solutions with unprecedented levels of performance. This partnership allows us to deliver products that are at the forefront of technological advancements, ensuring our customers stay ahead in the competitive transportation market.

## Commitment to Customer Service and Lasting Win-Win Partnerships

IBASE has built its reputation through dedication and commitment to delivering well-designed products and outstanding customer service. We value our relationships with both customers and technology vendors and work hand-in-hand to form lasting win-win partnerships. Our customer-centric approach ensures that we understand our customers' needs and provide timely and efficient support, establishing IBASE as a trusted partner in the intelligent transportation industry.





### Features

- Intel® Atom® x6425RE/x6212RE processors
- EN50155 (2021) / EN45545-2 certified
- Fanless and ruggedized design
- Robust M12 connection for one 2.5G LAN, dual GbE LAN with PoE, dual USB
- Isolated USB1.1, Isolated RS485 ports
- SIM socket with dual WWAN support
- Optional isolated CANbus thru Mini PCI-E card
- Wide-range operating temperature from -30°C to +70°C

### Specifications

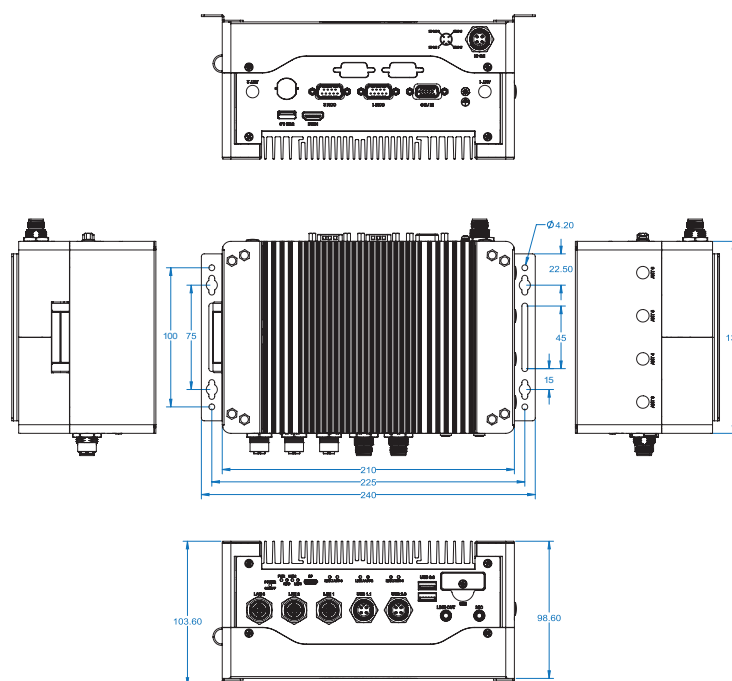
|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard        | MBT-501R                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| CPU Type                | Intel® Atom® x6212RE/ x6425RE Processor                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Processor Speed         | Intel® Atom® x6212RE: 1.2GHz<br>Intel® Atom® x6425RE: 1.90GHz                                                                                                                                                                                                                                                                                                                                                                                                    |
| Memory                  | 4GB/8GB LPDDR4 3200 on board                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Front panel I/O         | 1x Recessed access tact-switch for system power<br>4x light-pipe for four status LED<br>1x USB type-C with DP<br>6x LED with each port for network status<br>2x USB3.2 Gen.1 type-A<br>2x external accessible SIM socket<br>3x M12 8-pin X-code for LAN (Two GbE LAN come with PoE and one 2.5G LAN)<br>1x M12 4-pin A-code for USB 1.1<br>1x M12 4-pin A-code for USB 2.0<br>1x 3.5mm audio connector for line output<br>1x 3.5mm audio connector for MIC input |
| Rear Panel External I/O | 1x HDMI type-A<br>1x USB3.2 Gen.2 type-A<br>2x SMA antenna holes with cap<br>1x M3 screw hole for grounding connection<br>1x DSUB15 for 4x DO/4x DI and ground<br>1x DSUB9 for RS-232/485<br>1x DSUB9 for 2x RS485 isolated<br>1x M12 4-pin A-code for power input                                                                                                                                                                                               |
| Storage                 | 1x 2280 M.2 M-key (PCI-E M.2 SSD)<br>1x 2.5" device bay for SSD or HDD. Default 2.5" 64G SSD                                                                                                                                                                                                                                                                                                                                                                     |
| Expansion slots         | 1x mPCI-E full/half socket (PCI-E, USB 2.0) (supports SIM2)<br>1x 3042/52 M.2 B-key (4G/5G) (supports SIM1)                                                                                                                                                                                                                                                                                                                                                      |
| Power Supply            | 24V DC or 72V DC/110V DC                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Construction            | Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Chassis Color           | Black                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Mounting                | Side mounting                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Dimensions              | 240 (W) x 138 (D) x 93 (H) mm<br>9.4" (W) x 5.4" (D) x 3.7" (H)                                                                                                                                                                                                                                                                                                                                                                                                  |
| Operating Temperature   | SSD w/o PCI-E Card: -40°C ~70°C, up to 85°C for 10 minutes<br>SSD w/ PCI-E Card: -40°C ~55°C, up to 70°C for 10 minutes<br>HDD: -25°C ~55°C, up to 70°C for 10 minutes                                                                                                                                                                                                                                                                                           |
| Storage Temperature     | -40°C ~ 85°C (-40°F~185°F)                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Relative Humidity       | 10 ~ 95% @ 45°C, (non-condensing)                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Vibration               | Function: 1m/S <sup>2</sup> , 5Hz~150Hz (EN 61373)<br>Lifetime: 7.9m/S <sup>2</sup> , 5Hz~150Hz (EN 61373)                                                                                                                                                                                                                                                                                                                                                       |
| Shock                   | 50 m/S <sup>2</sup> , 30 msec (EN61373)                                                                                                                                                                                                                                                                                                                                                                                                                          |

|           |                                                                           |
|-----------|---------------------------------------------------------------------------|
| Certified | EN50155: 2021<br>CE (EN62368/ EN55032/ EN55035)/ FCC Class-A<br>EN45545-2 |
|-----------|---------------------------------------------------------------------------|

### Ordering Information

|            |                                                                                                         |
|------------|---------------------------------------------------------------------------------------------------------|
| MPT-500R   | MPT-500R with MBT-501RX25, Intel® Atom® x6425RE processor, w/ 4GB RAM, 64G MLC SSD, 24V DC input        |
| MPT-500RH  | MPT-500RH with MBT-501RX25, Intel® Atom® x6425RE processor, w/ 4GB RAM, 64G MLC SSD, 72/110V DC input   |
| MPT-500RHA | MPT-500RHA with MBT-501RX25A, Intel® Atom® x6425RE processor, w/ 8GB RAM, 64G MLC SSD, 72/110V DC input |
| MPT-500RE  | MPT-500RE with MBT-501RX12, Intel® Atom® X6212RE processor, w/ 4GB RAM, 64G MLC SSD, 24V DC input       |

### Dimensions





MPT-1000R VIDEO



## Specifications

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard        | MBT-1001R                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CPU Type                | Intel® Atom® x7-E3950 Processor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Processor Speed         | 1.6GHz, up to 2.0GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Memory                  | 1x DDR3L SO-DIMM socket (horizontal type) with ECC support, default 4GB ECC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Front panel I/O         | 1x power reset button<br>1x DVI-D<br>2x M12 X-code GbE LAN, isolated<br>1x USB 2.0 type-A, isolated<br>1x M12 A-code USB 2.0 isolated<br>2x Audio jack for Line-in/out<br>5x LED Indications, one is programmable<br>1x SIM card slot for dual micro SIM card<br>1x Expansion slots reset button                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Rear Panel External I/O | 1x 10-pin terminal block connector for<br>- 2x insulated DO<br>• Output type: Darlington transistor<br>• Sink current: 500 mA for one channel @100% duty<br>- Source current: 500 mA for one channel @100% duty cycle<br>- Supply voltage: 5V~35V DC<br>- Isolation voltage: 2500 VRMS<br>- 6x insulated DI<br>• Maximum input range: 24V, non-polarity<br>• Digital logic levels: 0V~24V, non-polarity<br>• Input high voltage: 5V~24V<br>• Input low voltage: 0V~1.5V<br>• Input resistance: 1.2k @ 0.5W Isolation voltage: 2500 VRMS<br>- 1x DSUB9 for RS232/485, isolated<br>- 1x DSUB9 for RS485, isolated<br>1x M12 4-pin D-code for 2 master CANbus, isolated<br>2x USB 2.0 type-A, isolated<br>1x M12 3-pin A-code for power input<br>1x Blade fuse |
| Storage                 | 2x 2.5" device bay for SSD/HDD<br>1x mSATA via miniPCI-E slot (shared with one 2.5" device)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Expansion slots         | 1x miniPCI-E full/Half-size, supports mSATA<br>1x miniPCI-E full/Half-size, supports second SIM card shared with M.2 slot<br>1x M.2 B-key 30x42 with USB 2.0 and USB 3.0 signal only, supports 2x SIM cards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Power Supply            | 9V~32VDC, 1.5KV galvanic isolation protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Construction            | Matel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Chassis Color           | Black                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mounting                | Side mounting, rack mounting with optional bracket                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Dimensions              | 340 (W) x 183.4 (D) x 67.6 (H) mm<br>13.3" (W) x 7.22" (D) x 2.66" (H)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## Features

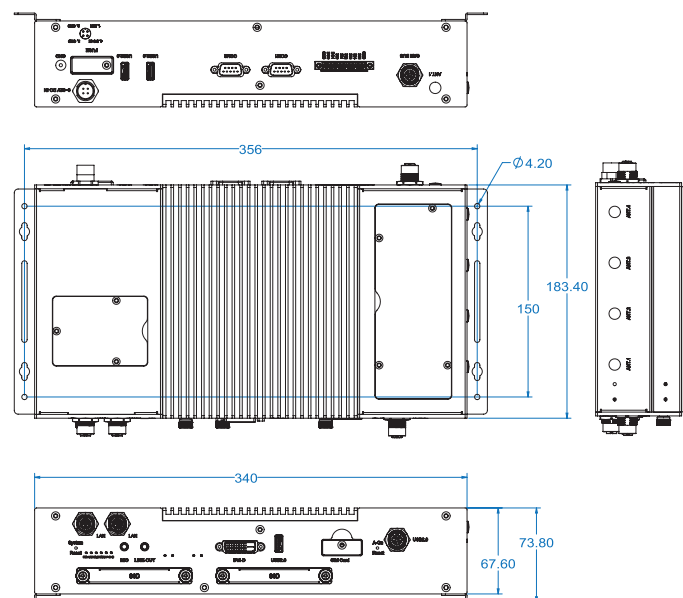
- EN50155 (2017) certified
- Fanless and ruggedized design
- Robust M12 connection for dual GbE, USB
- Onboard isolated CANbus
- SIM socket supports dual WWAN
- Add on card slots reset function
- Quick accessible RTC battery

|                       |                                                                                                            |
|-----------------------|------------------------------------------------------------------------------------------------------------|
| Operating Temperature | -40°C ~70°C, with SSD, not including add-on cards                                                          |
| Storage Temperature   | -40°C ~ 85°C (-40°F~185°F)                                                                                 |
| Relative Humidity     | 10 ~ 95% @ 45°C, (non-condensing)                                                                          |
| Vibration             | Function: 1m/S <sup>2</sup> , 5Hz~150Hz (EN 61373)<br>Lifetime: 7.9m/S <sup>2</sup> , 5Hz~150Hz (EN 61373) |
| Shock                 | 50 m/S <sup>2</sup> , 30 msec (EN61373)                                                                    |
| Certified             | EN50155: 2017<br>CE (EN62368/ EN55032/ EN55025)/ FCC Class-A<br>EN45545-2                                  |

## Ordering Information

|            |                                                                                                                                           |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| MPT-1000RM | MPT-1000R with MBT-1001R, Intel® Atom® x7-E3950 Processor, 4G DDR3L ECC RAM, 2x M12 GbE LAN, 24VDC(-25%~+30%), No OS, adaptor and storage |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------|

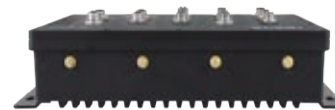
## Dimensions





### Features

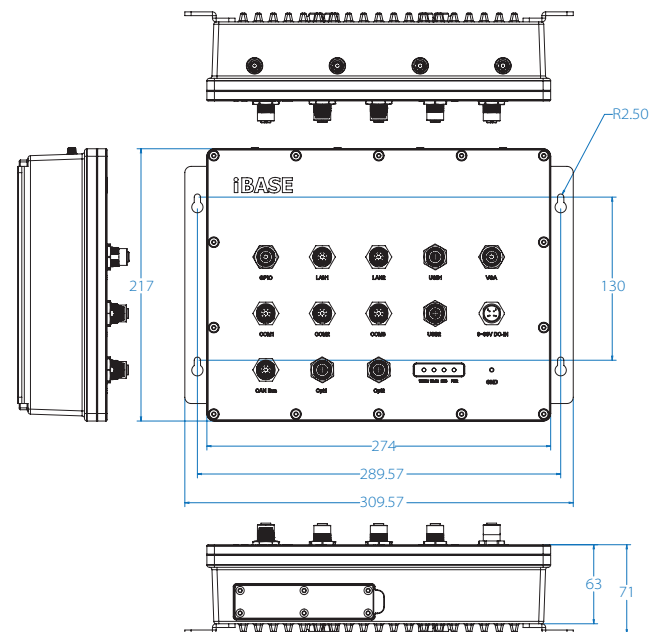
- EN50155 (2017) certified and IP67 rated
- Fanless and ruggedized design
- Robust M12 connectors for dual GbE, USB and power input
- Dual SIM sockets support WWAN redundancy
- Rich I/O interfaces for wireless, SSD, GPS, WWAN
- Ignition power control
- Wide-range voltage GPIO interface



### Ordering Information

|            |                                                                                              |
|------------|----------------------------------------------------------------------------------------------|
| MPT-3000RP | Intel® Atom® Processor E3845, 128G M.2 SSD, 4G DDR3L RAM, 9V~36VDC, totally IP67, No adaptor |
|------------|----------------------------------------------------------------------------------------------|

### Dimensions



### Specifications

|                         |                                                                                                                                                                                                                              |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard        | MBT-3001P                                                                                                                                                                                                                    |
| CPU Type                | Intel® Atom® Processor E3845                                                                                                                                                                                                 |
| Processor Speed         | 1.91GHz                                                                                                                                                                                                                      |
| Memory                  | 2x 2GB DDR3L-1333 SO-DIMM (Dual Channel)                                                                                                                                                                                     |
| Front panel I/O         | CFast, 2.5" drive bay,<br>2x SIM sockets<br>2x M12 USB 2.0<br>4x antenna connectors<br>1x M12 VGA, 3x M12 COMs,<br>2x M12 GbE, 1x M12 power connection<br>1x M12 GPIO, 1x M12 CAN Bus<br>Status LEDs                         |
| Rear Panel External I/O | N/A                                                                                                                                                                                                                          |
| Storage                 | 2.5" drive bay for SSD & HDD<br>M.2 SSD Storage                                                                                                                                                                              |
| Expansion slots         | 1x Half-size Mini PCI-E socket (USB 2.0)<br>1x Full-size Mini PCI-E socket (USB 2.0 + PCI-E)<br>1x 2230 M.2 E-Key socket (USB 2.0 + PCI-E)<br>1x 3042 M.2 B-Key WWAN socket (USB 2.0)<br>1x 2280 M.2 M-Key SSD socket (SATA) |
| Power Supply            | DC 9V~36V / 72V / 110V                                                                                                                                                                                                       |
| Construction            | Aluminum                                                                                                                                                                                                                     |
| Chassis Color           | Black                                                                                                                                                                                                                        |
| Mounting                | Wall Mount                                                                                                                                                                                                                   |
| Dimensions              | 270.0 (W) x 63.0 (D) x 210.0 (H) mm<br>10.62" (W) x 2.48" (D) x 8.26" (H)                                                                                                                                                    |
| Operating Temperature   | SSD: -40°C ~ 70°C (-40°F~158°F)                                                                                                                                                                                              |
| Storage Temperature     | -40°C ~ 85°C (-40°F~185°F)                                                                                                                                                                                                   |
| Relative Humidity       | 10 ~ 95% RH @ 45°C (non-condensing)                                                                                                                                                                                          |
| Vibration               | Function: 1 m/s <sup>2</sup> , 5Hz ~ 150 Hz (EN 61373)<br>Lifetime: 5.72 m/s <sup>2</sup> , 5Hz ~ 150 Hz (EN 61373)                                                                                                          |
| Shock                   | 50 m/s <sup>2</sup> , 30 msec (EN 61373)                                                                                                                                                                                     |
| Certified               | EN50155: 2017, EN50153:2014<br>EN50121-3-2:2015, CE Class-A, FCC Class-A, EN45545                                                                                                                                            |



## Specifications

|                          |                                                                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-3001R                                                                                                                                                                                                                    |
| CPU Type                 | Intel® Atom® Processor E3845                                                                                                                                                                                                 |
| Processor Speed          | 1.91GHz                                                                                                                                                                                                                      |
| Memory                   | 2x 2GB DDR3L-1333 SO-DIMM (Dual Channel)                                                                                                                                                                                     |
| Front Panel External I/O | CFast, 2.5" device bay, 2nd Mic-In & Line-Out<br>2x SIM sockets, 1x USB 3.0, 1x USB 2.0, Reset button<br>Status LEDs, 4x antenna connectors                                                                                  |
| Rear Panel External I/O  | DVI-D, VGA, 3x COMs (one with RS422/485 options)<br>2x M12 GbE, 2x M12 USB 2.0, M12 power connection<br>1st Mic-In & Line-Out, GPIO, GbE status LEDs                                                                         |
| Storage                  | 2.5" device bay for SSD & HDD                                                                                                                                                                                                |
| Expansion slots          | 1x Half-size Mini PCI-E socket (USB 2.0)<br>1x Full-size Mini PCI-E socket (USB 2.0 + PCI-E)<br>1x 2230 M.2 E-Key socket (USB 2.0 + PCI-E)<br>1x 3042 M.2 B-Key WWAN socket (USB 2.0)<br>1x 2280 M.2 M-Key SSD socket (SATA) |
| Power Supply             | DC 9V~36V / 72V / 110V                                                                                                                                                                                                       |
| Construction             | Aluminum                                                                                                                                                                                                                     |
| Chassis Color            | Black                                                                                                                                                                                                                        |
| Mounting                 | Custom mounting rail                                                                                                                                                                                                         |
| Dimensions               | 256.0 (W) x 182.0 (D) x 68.0 (H) mm<br>10.08" (W) x 7.17" (D) x 2.68" (H)                                                                                                                                                    |
| Operating Temperature    | SSD: -40°C ~ 70°C (-40°F~158°F)<br>HDD: -20°C ~ 50°C (-4°F~122°F)                                                                                                                                                            |
| Storage Temperature      | -40°C ~ 85°C (-40°F~185°F)                                                                                                                                                                                                   |
| Relative Humidity        | 10 ~ 95% RH @ 45°C (non-condensing)                                                                                                                                                                                          |
| Vibration                | Function: 1 m/s <sup>2</sup> , 5Hz~150 Hz (EN 61373)<br>Lifetime: 5.72 m/s <sup>2</sup> , 5Hz~150 Hz (EN 61373)                                                                                                              |
| Shock                    | 50 m/s <sup>2</sup> , 30 msec (EN 61373)                                                                                                                                                                                     |
| Certified                | EN50155:2021, EN50153:2014<br>EN50121-3-2:2015, CE Class-A, FCC Class-A, EN45545                                                                                                                                             |

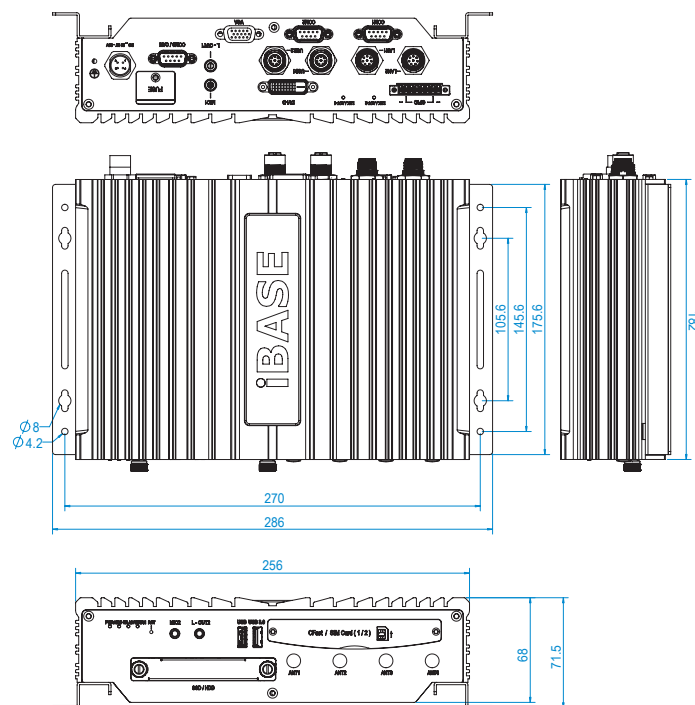
## Features

- EN50155 (2021) certified
- Fanless and ruggedized design
- Robust M12 connection for dual GbE, USB and power input
- Dual SIM sockets support WWAN redundancy
- Removable 2.5" device bay and CFast socket
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Ignition power control
- Wide-range voltage GPIO interface

## Ordering Information

|                  |                                                                                                                             |
|------------------|-----------------------------------------------------------------------------------------------------------------------------|
| MPT-3000RSM      | MPT-3000R with MBT-3001R, Intel® Atom® Processor E3845 w/ 2x 2GB DDR3L-1333, SSD bay, No PSU, No storage (RoHS)             |
| MPT-3000RHVSM    | MPT-3000R with MBT-3001R, Intel® Atom® Processor E3845 w/ 2x 2GB DDR3L-1333, SSD bay, No PSU, No storage (RoHS) 72V/110V DC |
| M12-PWR-Cable-1  | 120cm M12 power cable for MPT series / Lead Only                                                                            |
| M12-USB-Cable-1  | 300cm M12 to one USB receptacle cable for MPT series                                                                        |
| M12-RJ45-Cable-1 | 300cm M12 to one RJ45 jack cable                                                                                            |
| Fuse-HV          | Fuse for HV version                                                                                                         |

## Dimensions





### Features

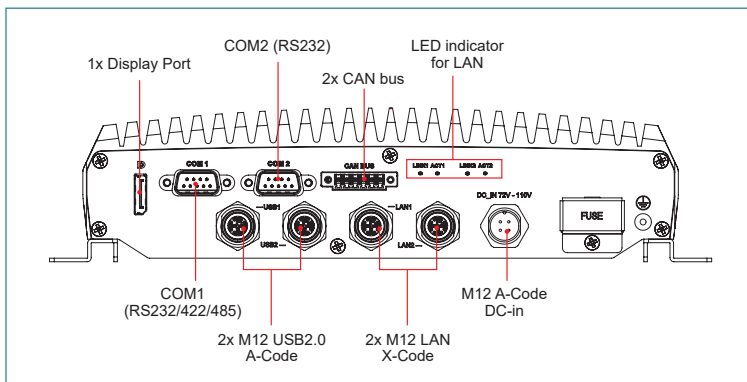
- EN50155 (2021) / EN45545-2 certified
- Robust M12 connectors for dual GbE, USB and power input
- Onboard isolated CAN 2.0A / 2.0B / CAN-FD
- Dual SIM sockets support WWAN redundancy
- Removable 2.5" device bay for SSD storage
- Ignition power control
- Wide-range voltage GPIO interface
- 1x USB Type-C Alternate mode with PD 60W

### Specifications

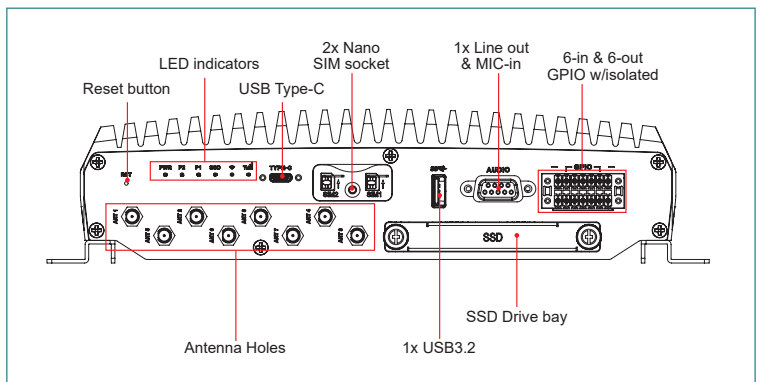
|                          |                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-3111                                                                                                                                                                                                                                                                                                                                                                                                     |
| CPU Type                 | Intel® Atom® x7433RE Processor                                                                                                                                                                                                                                                                                                                                                                               |
| Processor Speed          | Up to 2.7GHz                                                                                                                                                                                                                                                                                                                                                                                                 |
| Memory                   | 1x DDR5-4800 SO-DIMM socket<br>Up to 16GB                                                                                                                                                                                                                                                                                                                                                                    |
| Front Panel External I/O | 1x USB3.2 Gen2 Type-A connector<br>2x external accessible SIM socket<br>1x USB TYPE-C connector with screw-lock<br>1x Removable 2.5" SSD device bay<br>1x DB9 female connector for Line-out & MIC-in<br>1x 14-pin terminal block 6-in & 6-out digital I/O with 24V input and output<br>1x reset button<br>6x light-pipe for status LED Indicators<br>8x Antenna holes                                        |
| Rear Panel External I/O  | 2x M12 X-code 8P female for 2.5 GbE LAN1/LAN2<br>1x M12 4 pins A-code male for power input<br>2x M12 8 pins A-code female for 2x USB2.0<br>1x DisplayPort, 1x VGA connector (Option)<br>1x Terminal block DIP 6 pins for 2 x Can FD master<br>2x DB9M for COM#1 (RS232/422/485) / COM#2 (RS232 only)<br>1x M3 with washer screw hole for grounding connection<br>4x light-pipe for LAN status LED Indicators |
| Expansion slots          | 1x M.2 2230 E-Key socket for WLAN & BT connection (PCI-E + USB2.0 + SMBus)<br>1x M.2 3042/52 B-Key socket for WWAN (4G/5G) connection (USB3.2 Gen.1 )<br>1x M.2 2280 M-Key socket for SSD device (SATA III)<br>1x Mini PCI-E full-sized socket for MVB & add-on card (PCI-E + USB2.0 + SMBus)<br>1x Mini PCIe half-sized socket for GPS module (USB2.0 only)                                                 |

|                       |                                                                                                                |
|-----------------------|----------------------------------------------------------------------------------------------------------------|
| Storage               | 1x M.2 2280 M-Key socket for SSD (SATA III)<br>1x 2.5" removable device bay for SSD                            |
| Power Supply          | DC-input 24V ~ 110V                                                                                            |
| Construction          | Aluminum                                                                                                       |
| Chassis Color         | Black                                                                                                          |
| Mounting              | wall mount                                                                                                     |
| Dimensions            | 250 (W) x 150 (D) x 55 (H) mm<br>9.84" (W) x 5.9" (D) x 2.16" (H)                                              |
| Operating Temperature | -40°C ~ 70°C (-40°F ~ 158°F) (w/ industrial-grade SSD)                                                         |
| Storage Temperature   | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                   |
| Relative Humidity     | 10 ~ 95% RH @45°C (non-condensing)                                                                             |
| Vibration             | Function: 1 m/s <sup>2</sup> , 5Hz~150 Hz (EN 61373)<br>Lifetime: 7.9 m/s <sup>2</sup> , 5Hz~150 Hz (EN 61373) |
| Shock                 | 50 m/s <sup>2</sup> , 30 msec (EN 61373)                                                                       |
| Certified             | EN 50155:2021, EN 45545 -2 HL1/2/3 2020<br>CE (EN 62368-1 / EN55032 / EN55035), FCC Class-A                    |

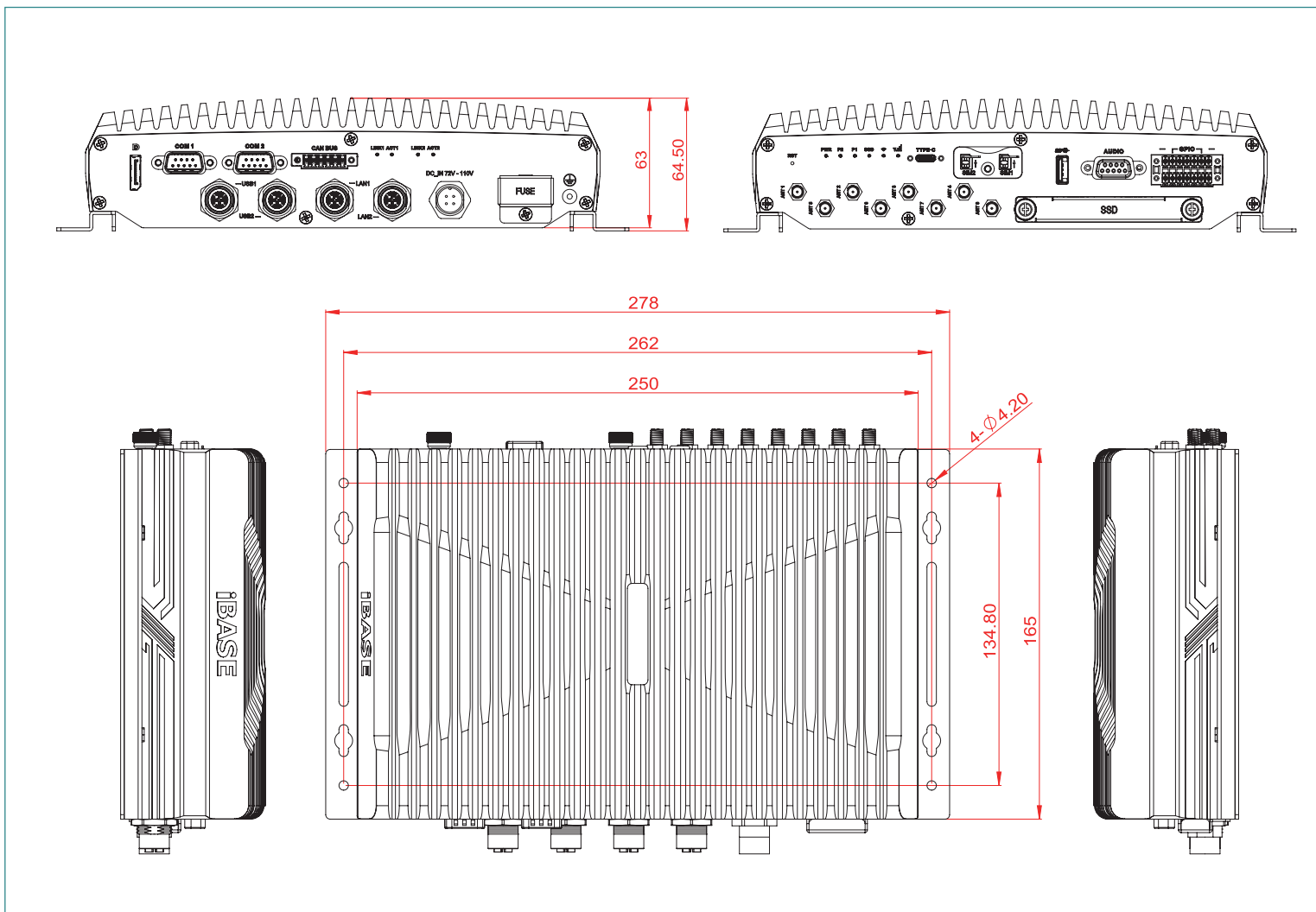
### Rear External I/O



### Front External I/O



## Dimensions



## Ordering Information

| Part Number | Model Name | CPU           | RAM | Storage | Display                     | LAN<br>M12 X-Coded | USB<br>M12 A-Coded | USB<br>3.2 | COM<br>Ports | M.2 or<br>Mini PCI-E | Power<br>Input |
|-------------|------------|---------------|-----|---------|-----------------------------|--------------------|--------------------|------------|--------------|----------------------|----------------|
| -           | MPT-3110R  | Atom® x7433RE | 8GB | N/A     | 1x DP<br>1x USB-C<br>1x VGA | 2                  | 2                  | 1          | 2            | 5                    | 24V            |
| -           | MPT-3110RH |               |     |         |                             |                    |                    |            |              |                      | 48V/72V/110V   |

## Packing List

| Part Number        | Description                          | Qty. |
|--------------------|--------------------------------------|------|
| -                  | MPT-3110R                            | 1    |
| D2MANUAL-0000100P  | Manual @ Driver download instruction | 1    |
| H06MTMPT3110R000AP | Wall mount bracket                   | 2    |
| C1216022107103000P | GPIO Matching Connector (7 pins)     | 2    |
| C1216ECH306103100P | CAN bus Matching Connector (6 pins)  | 1    |
| H032GM15250010000P | Screw for SSD (if not pre-installed) | 4    |
| H0230561B710BN000P | Screw for wall mount                 | 4    |

## Optional Items

| Part Number        | Description                                                 |
|--------------------|-------------------------------------------------------------|
| C501PW39904121000P | Power cable: M12 A-Code to bare wired                       |
| C501LAN8208A32000P | LAN cable: M12 X-Code to RJ45 CAT-6 (up to 2.5GbE)          |
| C501LAN6300A32000P | LAN cable: M12 X-Code to RJ45 CAT-5 (up to 1.0GbE)          |
| C501USB1320A32000P | USB cable: M12 A-code to USB Type-A                         |
| -                  | Audio cable: DB9M to 3.5mm Audio jack for Line-out & MIC-in |



### Features

- EN50155 (2021) certified
- Fanless and ruggedized design
- Robust M12 connectors for dual GbE, USB and power input
- Dual SIM sockets support WWAN redundancy
- Two removable 2.5" device bay and CFast socket
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Ignition power control
- Wide-range voltage GPIO interface
- One PCI-E (x4) expansion

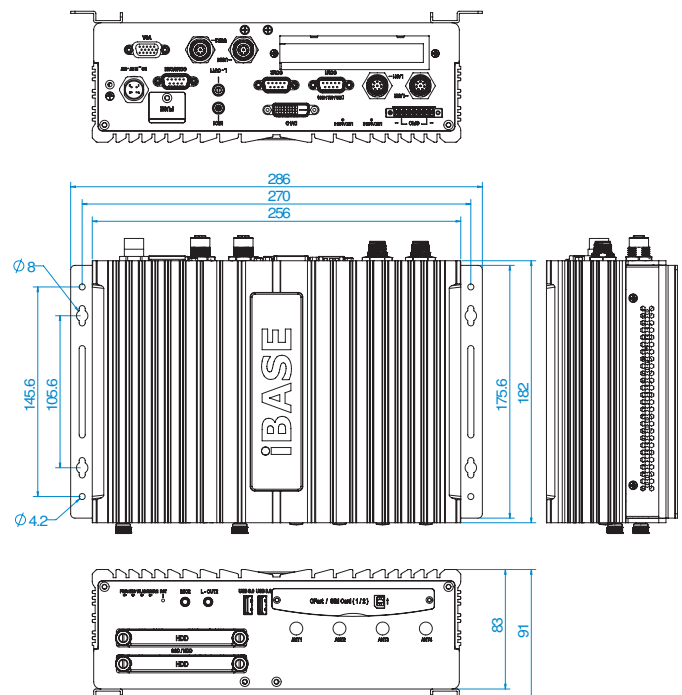
### Specifications

|                          |                                                                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-7001R                                                                                                                                                                                                                    |
| CPU Type                 | 7th/6th Gen Intel® Core Processor                                                                                                                                                                                            |
| Processor Speed          | 2.6GHz                                                                                                                                                                                                                       |
| Memory                   | 2x 4GB DDR4-2133 SO-DIMM (Dual Channel)                                                                                                                                                                                      |
| Front Panel External I/O | CFast, 2.5" device bay, 2nd Mic-In & Line-Out<br>2x SIM sockets, 2x USB 3.0, Reset button<br>Status LEDs, 4x antenna connectors                                                                                              |
| Rear Panel External I/O  | DVI-D, VGA, 3x COMs (2x COMs for HV model, one with RS422/485 options), 2x M12 GbE, 2x M12 USB 2.0,<br>M12 power connection, 1st Mic-In & Line-Out, GPIO,<br>GbE status LEDs, 1x PCI-E (x4) slot                             |
| Storage                  | 2x 2.5" device bay for SSD & HDD                                                                                                                                                                                             |
| Expansion slots          | 1x Half-size Mini PCI-E socket (USB 2.0)<br>1x Full-size Mini PCI-E socket (USB 2.0 + PCI-E)<br>1x 2230 M.2 E-Key socket (USB 2.0 + PCI-E)<br>1x 3042 M.2 B-Key WWAN socket (USB 2.0)<br>1x 2280 M.2 M-Key SSD socket (SATA) |
| Power Supply             | DC 9V~36V / 72V / 110V                                                                                                                                                                                                       |
| Construction             | Aluminum                                                                                                                                                                                                                     |
| Chassis Color            | Black                                                                                                                                                                                                                        |
| Mounting                 | Custom mounting rail                                                                                                                                                                                                         |
| Dimensions               | 256.0 (W) x 182.0 (D) x 83.0 (H) mm<br>10.08" (W) x 7.17" (D) x 3.27" (H)                                                                                                                                                    |
| Operating Temperature    | SSD: -30°C ~ 55°C (-22°F ~ 131°F)<br>HDD: -20°C ~ 45°C (-4°F ~ 113°F)<br>SSD: -40°C ~ 70°C (-40°F ~ 158°F) system only                                                                                                       |
| Storage Temperature      | -35°C ~ 85°C (-31°F ~ 185°F)                                                                                                                                                                                                 |
| Relative Humidity        | 10 ~ 95% RH @45°C (non-condensing)                                                                                                                                                                                           |
| Vibration                | Function: 1 m/s <sup>2</sup> , 5Hz~150 Hz (EN 61373)<br>Lifetime: 5.72 m/s <sup>2</sup> , 5Hz~150 Hz (EN 61373)                                                                                                              |
| Shock                    | 50 m/s <sup>2</sup> , 30 msec (EN 61373)                                                                                                                                                                                     |
| Certified                | EN50155:2021, EN50153:2014<br>EN50121-3-2:2015, CE Class-A, FCC Class-A, EN45545                                                                                                                                             |

### Ordering Information

|                  |                                                                                                                                          |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| MPT-7000RSM      | MPT-7000R with MBT-7001R, 6th Gen Intel® Core™ i7-6600U Processor w/ 2x 4GB DDR4-2133, 2x SSD bay, No PSU, No storage (RoHS) 24V DC      |
| MPT-7000RHVSM    | MPT-7000R with MBT-7001R, 6th Gen Intel® Core™ i7-6600U Processor w/ 2x 4GB DDR4-2133, 2x SSD bay, No PSU, No storage (RoHS) 72V/110V DC |
| M12-PWR-Cable-1  | 120cm M12 power cable for MPT Series / Lead Only                                                                                         |
| M12-USB-Cable-1  | 300cm M12 to one USB receptacle cable for MPT series                                                                                     |
| M12-RJ45-Cable-1 | 300cm M12 to one RJ45 jack cable                                                                                                         |
| Fuse-HV          | Fuse for HV version                                                                                                                      |

### Dimensions





### Features

- EN50155 (2021) / EN45545-2 certified
- Fanless and ruggedized design
- Robust M12 connectors for dual GbE, USB and power input
- Dual SIM sockets support WWAN redundancy
- Onboard isolated CAN 2.0A / 2.0B / CAN-FD
- Two removable 2.5" device bay for SSD storage
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Ignition power control
- Wide-range voltage GPIO interface
- 1x USB Type-C Alternate mode with PD 60W

### Specifications

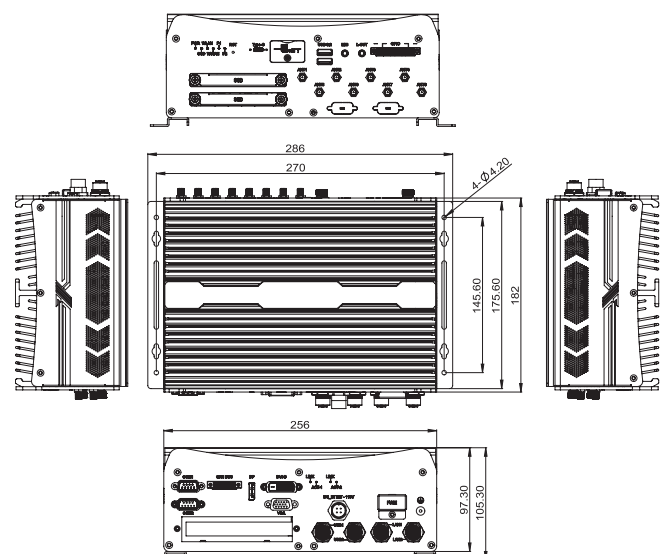
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|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-7101R                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| CPU Type                 | 13th Gen Intel® Core U-Series Processor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Processor Speed          | Up to 3.0GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Memory                   | 2x 8GB DDR5-5200 SO-DIMM (Dual Channel)                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Front Panel External I/O | 2x USB3.2 Gen2 stack Type-A connector<br>2x External accessible SIM socket<br>1x USB Type-C connector with screw-lock<br>2x Removable 2.5" SSD device bay<br>1x 3.5mm green color audio for Line-out<br>1x 3.5mm pink color audio for MIC-in<br>1x Reset button<br>1x 10-pin terminal block for isolated digital I/O<br>8x SMA antenna holes<br>6x Light-pipe for status LED indicators (2x programmable)                                                            |
| Rear Panel External I/O  | 2x M12 X-code 8P female for GbE LAN1/LAN2<br>1x M12 A-code 4P male for DC-input<br>2x M12 A-code 4P female for USB 2.0<br>1x DisplayPort output<br>1x DVI-D connector, 1x VGA connector<br>1x 6-pin terminal block for 2x isolated CAN bus<br>2x DB9M for COM#1 (RS232/422/485) / COM#2 (RS232 only)<br>1x Removable blade fuse holder<br>4x Light-pipe for LAN status LED indicators<br>1x PCI-E (x4) slot<br>1x M3 with washer screw hole for grounding connection |
| Storage                  | 1x M.2 2280 M-Key socket for NVMe SSD (PCI-E x4 [Gen.4])<br>2x 2.5" removable device bay for SSD                                                                                                                                                                                                                                                                                                                                                                     |
| Expansion slots          | 1x M.2 2230 E-Key socket for WLAN & BT connection (PCI-E + USB2.0 + SMBus).<br>1x M.2 3042/52 B-Key socket for WWAN (4G/5G) connection (PCI-E + USB3.2 + SMBus)<br>1x M.2 2280 M-Key socket for NVMe SSD / Hailo AI module (PCI-E x4 [Gen.4])<br>1x Mini PCI-E full-size socket for MVB/CAN FD module (PCI-E + USB2.0 + SMBus)<br>1x Mini PCI-E half-size socket (USB 2.0)                                                                                           |
| Power Supply             | DC-input for 24V~110V                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Construction             | Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Chassis Color            | Silver & Blue                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Mounting                 | Wall mount                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Dimensions               | 256.0 (W) x 182.0 (D) x 97.3 (H) mm<br>10.08" (W) x 7.17" (D) x 3.83" (H)                                                                                                                                                                                                                                                                                                                                                                                            |

|                       |                                                                                                                                                  |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | -40°C ~ 70°C (-40°F ~ 158°F) (w/o FAN & SSD), up to 85°C for 10 minutes according to EN 50155 OT4<br>-20°C ~ 55°C (-4°F ~ 131°F) (w/ PCI-E card) |
| Storage Temperature   | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                                                     |
| Relative Humidity     | 10 ~ 95% RH @45°C (non-condensing)                                                                                                               |
| Vibration             | Function: 1 m/s², 5Hz~150 Hz (EN 61373)<br>Lifetime: 7.9 m/s², 5Hz~150 Hz (EN 61373)                                                             |
| Shock                 | 50 m/s², 30 msec (EN 61373)                                                                                                                      |
| Certified             | EN 50155:2021, EN 45545-2 HL1/2/3 2020<br>CE (EN 62368-1 / EN55032 / EN55035), FCC Class-A                                                       |

### Ordering Information

|            |                                                                                                                                                  |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| MPT-7100R  | MPT-7100R with MBT-7101R, 13th Gen Intel® Core™ i7-1365URE Processor w/ 2x 8GB DDR5-5200, 2x SSD bay, No PSU, No storage (RoHS) 24V DC-in        |
| MPT-7100RH | MPT-7100R with MBT-7101R, 13th Gen Intel® Core™ i7-1365URE Processor w/ 2x 8GB DDR5-5200, 2x SSD bay, No PSU, No storage (RoHS) 48/72/110V DC-in |

### Dimensions





### Specifications

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-8001RW                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| CPU Type                 | 10th Gen Intel® Core™ Desktop processors                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Processor Speed          | 4.5GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Memory                   | 2x DDR4-2666 SO-DIMM, 2x 8GB (default)<br>Maximum size supported: 128GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Front Panel External I/O | 2x Accessible 2.5" device bay (SSD/HDD)<br>2x M12 X-code 8-pin for GbE LAN, isolated<br>1x M12 4-pin A-code for USB 2.0, isolated<br>1x M12 4-pin A-code for USB 1.1, isolated<br>1x 3.5mm pink audio connector for MIC-Input<br>1x 3.5mm blue audio connector for Line in<br>4x SMA Antenna holes with cap<br>2x PCI-Ex4 card slots for IDT8102/IDT 7204 (with cover when empty)<br>- IDT8102: 2x 10G LAN card<br>- IDT7204: 4x 1G PoE card<br>2x External accessible SIM socket<br>1x Micro SD card socket<br>1x Recessed Access Tach-switch for System Reset<br>1x USB type-C with graphics (No PD function)<br>1x USB3.2 Gen.2 type-A<br>Indicators: Four light-pipe for four status LED<br>- 1x 0402 SMT green LED for power status<br>- 1x 0402 SMT white LED for storage activity status<br>- 1x 0402 SMT blue LED for WLAN activity status<br>- 1x 0402 SMT amber LED for WWAN activity<br>- 2x 0402 SMT green LED, programmable |
| Rear Panel External I/O  | 1x Main power input, Staubli connector<br>2x Removable with screw lock FUSE holder<br>1x Backup power source, 24VDC only<br>1x DVI-D output<br>1x HDMI output<br>1x USB3.2 Gen.1 type-A<br>1x 3.5mm green audio connector for Line-out<br>1x Male DSUB9 for RS-485, isolated<br>1x Male DSUB9 connector for RS-232/485, isolated<br>1x Female DSUB9 for 8x DO and ground by cable, isolated<br>1x Female DSUB9 for 8x DI and ground by cable, isolated<br>1x M4 with washer screw hole for grounding connection<br>4x SMA Antenna holes with cap                                                                                                                                                                                                                                                                                                                                                                                         |
| Storage                  | 2x 2.5" Removable device bay for SSD devices<br>2x M.2 M-key SSD devices<br>RAID 0/1/5 supported, Max. 4x SATA devices                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Expansion slots          | 1x mPCI-E full/half-size socket<br>1x 3042/52 M.2 B-Key socket for WWAN (supports SIM1)<br>- This M.2 socket comes with USB2.0/PCI-Ex1 interface only<br>1x 3042/52 M.2 B-Key socket for WWAN (supports SIM2)<br>- This M.2 socket comes with USB2.0/PCI-Ex1 interface<br>1x 2242/80 M.2 M-key socket for SSD/VPU/WLAN card<br>1x 2242/80 M.2 M-key socket for SSD/VPU/WLAN card (NVMe support)<br>1x 2230 M.2 E-Key socket for WLAN (CNVi support)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

### Features

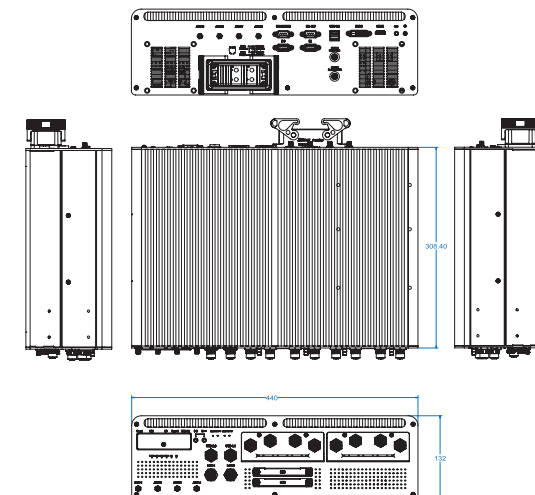
- EN50155 (2021) / EN45545-2 certified
- AI solution for Transportation application
- Supports 10th Gen Intel® Core™ Desktop processors
- Up to 10x GbE ports (8x with PoE capability)
- Optional 10G LAN
- Supports Intel® Movidus Vision Acceleration M.2 modules
- Supports Wi-Fi 6 CNVi, dual WWAN channels, RAID 0/1/5
- 1x USB Type-C with graphics output for quick setting and diagnostics

|                       |                                                                                                          |
|-----------------------|----------------------------------------------------------------------------------------------------------|
| Power Supply          | Main: 72V/110VDC<br>Second: 24V DC only, once the main power loses, switch to second power automatically |
| Construction          | Metal                                                                                                    |
| Chassis Color         | Black                                                                                                    |
| Mounting              | 19" Rack mount                                                                                           |
| Dimensions            | 482 (W) x 308 (D) x 132 (H) mm<br>18.97" (W) x 12.13" (D) x 5.2" (H)                                     |
| Operating Temperature | -10°C~60°C (14°F~140°F)                                                                                  |
| Storage Temperature   | -40°C ~ 85°C (-40°F~185°F)                                                                               |
| Relative Humidity     | 10 ~ 95% @ 45°C, (non-condensing)                                                                        |
| Vibration             | EN61373                                                                                                  |
| Shock                 | EN61373                                                                                                  |
| Certified             | EN50155: 2021, EN45545-2<br>CE/FCC class-A                                                               |

### Ordering Information

|            |                                                                                                                                                           |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| MPT-8000RH | MPT-8000R with MBT-8001R, 10th Gen Intel® Core Xeon W-1250TE with W480E PCH, w/ 2x 8GB DDR4-2666, 2x SSD bay, No PSU, No storage (RoHS2) 72/110V DC-input |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

### Dimensions





MPT-1000V VIDEO



## Features

- SIM socket supports Dual WWAN
- Removable 2.5" device bay
- Ignition power-on signal control
- Onboard CANbus
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Add on card slots reset function
- Quick accessible RTC battery

## Specifications

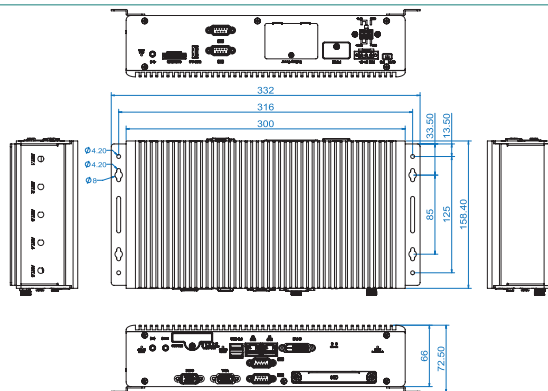
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|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard        | MBT-1002V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| CPU Type                | Intel® Atom® x7-E3950 Processor<br>Intel® Celeron® N3350 Processor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Processor Speed         | 1.6GHz, up to 2.0GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Memory                  | Onboard 4GB LPDDR4 memory (Intel® N3350 SKU)<br>Onboard 8GB LPDDR4 memory (Intel® E3950 SKU)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Front panel I/O         | 1x DVI-D connector for display connection<br>1x VGA DSub15<br>2x RJ45 for GbE LAN<br>1x 3.5mm blue color audio connector for line input<br>1x 3.5mm pink color audio connector for MIC-Input<br>2x external accessible SIM socket (Coved)<br>1x external micro SD card slot (Coved together with SIM card holder)<br>1x Stack USB connector for 2x USB3.1 (#1/#2)<br>1x DUB9 for COM1 RS-232/485<br>1x DUB9 for COM2 RS-485 isolated<br>1x DUB15 for DIDO 6in/6out isolated<br><b>6x insulated DO:</b> <ul style="list-style-type: none"> <li>- Output type: Darlington transistor</li> <li>- Sink current •500 mA for one channel @100% duty</li> <li>- Source current •500 mA for one channel @100% duty cycle</li> <li>- Supply voltage: 5V-35V DC</li> <li>- Isolation voltage: 2500V RMS</li> </ul> <b>6x insulated DI:</b> <ul style="list-style-type: none"> <li>- Maximum input range •24V, non-polarity</li> <li>- Digital logic levels •0~24 V, non-polarity</li> <li>- Input high voltage: 5V~24V</li> <li>- Input low voltage: 0~1.5V</li> <li>- Input resistance: 1.2 k @ 0.5W</li> <li>- Isolation voltage •2500V RMS</li> </ul> 1x tack switch for system reset<br>1x tack switch for Add-on cards reset<br>1x tack switch for power firmware load default<br><b>Indicators:</b> <ul style="list-style-type: none"> <li>- 1x Green color LED for power status</li> <li>- 1x White color LED for storage activity status</li> <li>- 1x Blue color LED for WLAN activity status (option)</li> <li>- 1x Orange color LED for WWAN activity status (option)</li> <li>- 1x Green color LED, programmable</li> <li>- 1x Red color LED for warning of wrong power voltage connected</li> <li>- 1x Blue color LED for external battery connected</li> </ul> |
| Rear Panel External I/O | 2x DSUB9 for COM3/4 RS232<br>1x 4 pins terminal block for 2 masters CANbus<br>1x USB 3.0 flag type-A<br>1x Audio jack for line out<br>1x Tack switch for clear CMOS<br>1x Open window for accessing RTC battery<br>1x 6-pin ATX connector for external battery, and 19V DC(Max: 1A) output<br>1x Blade fuse socket with cover<br>1x DIP switch for selecting power mode: CAR/DC<br>1x 3-pin terminal block for power input and IGN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Storage                 | 1x 2.5" device bay for SSD/HDD<br>1x mSATA via mini-PCI-E slot                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

|                       |                                                                                                                                                                                          |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expansion slots       | 1x miniPCI-E full/Half-size, supports mSATA<br>1x miniPCI-E full/Half-size, supports second SIM card<br>1x M.2 B-key 30x42 with USB 2.0 and USB 3.0 signal only, supports first SIM card |
| Power Supply          | 9V~32V DC input(10%) without backup battery power<br>12V~32V DC input with backup battery<br>Ignition detection: enable (Car mode)/ disable (DC mode)<br>Reverse protection              |
| Construction          | Matel                                                                                                                                                                                    |
| Chassis Color         | Black                                                                                                                                                                                    |
| Mounting              | Side mounting, rack mounting with optional bracket                                                                                                                                       |
| Dimensions            | 300 (W) x 158.4 (D) x 66 (H) mm<br>11.8" (W) x 6.23" (D) x 2.6" (H)                                                                                                                      |
| Operating Temperature | -40°C~70°C, with SSD, not including add-on cards (Intel® E3950 SKU)<br>-5°C~50°C, with SSD, not including add-on cards (Intel® N3350 SKU)                                                |
| Storage Temperature   | -40°C~85°C (-40°F~185°F)                                                                                                                                                                 |
| Relative Humidity     | 10 ~ 95% @ 45°C, (non-condensing)                                                                                                                                                        |
| Vibration             | Operating/Non-operating: 2,26 Grms (5~500 Hz) / MIL-STD-810G composite wheeled condition (Z-axis only)                                                                                   |
| Shock                 | Non-operating: Sawtooth: 40G, 11 msec (Z-axis)<br>Operating: Sawtooth: 20G, 11msec (Z-axis)                                                                                              |
| Certified             | E-Mark, CE (EN 62368 / EN55032 / EN55025)/ FCC Class-A                                                                                                                                   |

## Ordering Information

|              |                                                                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| MPT-1000V8GM | Intel® E3950 processor, 8G LPDDR4 RAM onboard, 9V~32V DC input (12V~32VDC if connected with backup power), ignition detection, no OS, adaptor and storage |
| MPT-1000VNM  | Intel® N3350 processor, 4G LPDDR4 RAM onboard, 9V~32V DC input (12V~32VDC if connected with backup power), ignition detection, no OS, adaptor and storage |

## Dimensions





## Specifications

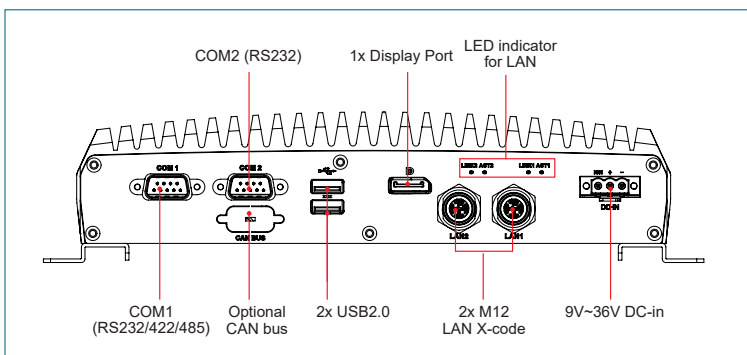
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-3101V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| CPU Type                 | Intel® Atom® x7433RE Processor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Processor Speed          | Up to 2.7GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Memory                   | 1x DDR5-4800 SO-DIMM socket<br>Up to 16GB                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Front Panel External I/O | 1x USB 3.2 Gen2 stack Type-A connector<br>2x external accessible SIM socket<br>1x USB Type-C connector with screw-lock<br>1x Removable 2.5" SSD device bay<br>1x DB9 female connector for Line-out & MIC-in<br>1x reset button<br>1x 14-pin terminal block 6-in & 6-out digital I/O with 24V input and output<br>2x FAKRA I-code plug Beige color connector for WiFi / Bluetooth<br>1x FAKRA C-code plug Blue color connector for GPS<br>2x FAKRA D-code plug Violet color connector for 4G/5G<br>4x light-pipe for status LED Indicators |
| Rear Panel External I/O  | 2x M12 X-code 8P female for GbE LAN1/LAN2<br>1x terminal block 3-pin for DC-input<br>1x VGA connector for graphic output (optional)<br>1x DisplayPort output<br>1x DB9F connector for 2x Can FD bus connection (works with extra CAN module)<br>2x DB9M for COM#1 / COM#2<br>2x USB 2.0 Type-A connector<br>2x light-pipe for LAN status LED Indicators                                                                                                                                                                                   |
| Storage                  | 1x M.2 2280 M-Key socket for SSD (SATA III signal)<br>1x 2.5" removable device bay for SSD                                                                                                                                                                                                                                                                                                                                                                                                                                                |

## Features

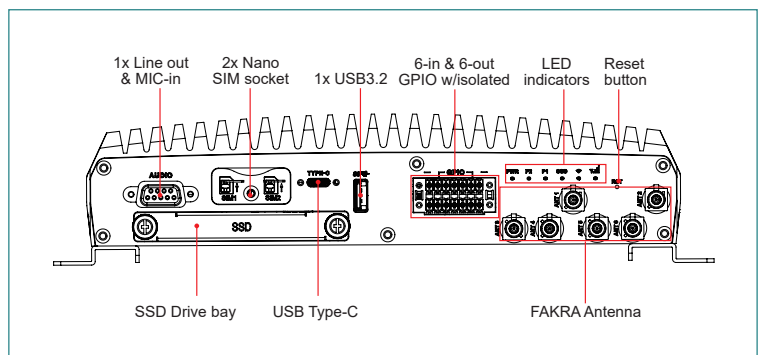
- Robust M12 & FAKRA connectors with rich I/O interface
- Dual SIM sockets support WWAN redundancy
- Optional isolated CANbus thru Mini PCI-E card
- Removable 2.5" device bay for SSD storage
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Ignition power control
- Wide-range voltage GPIO interface
- Super CAP for RTC battery design
- Optional AI accelerator performance

|                       |                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Expansion slots       | 1x M.2 2230 E-Key socket for WLAN & BT connection (PCI-E + USB 2.0 + SMBus)<br>1x M.2 3042/52 B-Key socket for WWAN (4G/5G) connection (USB3 .2 Gen.1 + SMBus)<br>1x M.2 2280 M-Key socket for SSD device (SATA III)<br>1x Mini PCI-E full-sized socket for MVB/CAN FD module (PCI-E + USB 2.0 + SMBus)<br>1x Mini-PCIe half-size socket for GPS module (USB2.0 only) |
| Power Supply          | DC-input 9V ~ 36V                                                                                                                                                                                                                                                                                                                                                     |
| Construction          | Aluminum                                                                                                                                                                                                                                                                                                                                                              |
| Chassis Color         | Black                                                                                                                                                                                                                                                                                                                                                                 |
| Mounting              | wall mount                                                                                                                                                                                                                                                                                                                                                            |
| Dimensions            | 250 (W) x 150 (D) x 55 (H) mm<br>9.84" (W) x 5.9" (D) x 2.16" (H)                                                                                                                                                                                                                                                                                                     |
| Operating Temperature | -40°C ~ 70°C (-40°F ~ 158°F) (w/o FAN & SSD)<br>-20°C ~ 55°C (-4°F ~ 131°F) (w/ PCI-E card)                                                                                                                                                                                                                                                                           |
| Storage Temperature   | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                                                                                                                                                                                                                                                                          |
| Relative Humidity     | 10 ~ 95% RH @45°C (non-condensing)                                                                                                                                                                                                                                                                                                                                    |
| Vibration             | Operating/Non-operating (SSD): 2.26 Grms (5~500 Hz) / MIL-STD-810G<br>composite wheeled condition (Z-axis only)                                                                                                                                                                                                                                                       |
| Shock                 | Operating: Sawtooth: 20G, 11msec (Z-axis) / MIL-STD-810G<br>Non-operating: Sawtooth: 40G, 11 msec (Z-axis) / MIL-STD-810G                                                                                                                                                                                                                                             |
| Certified             | E-Mark-24<br>CE (EN 62368-1 / EN55032 / EN55035), FCC Class-A                                                                                                                                                                                                                                                                                                         |

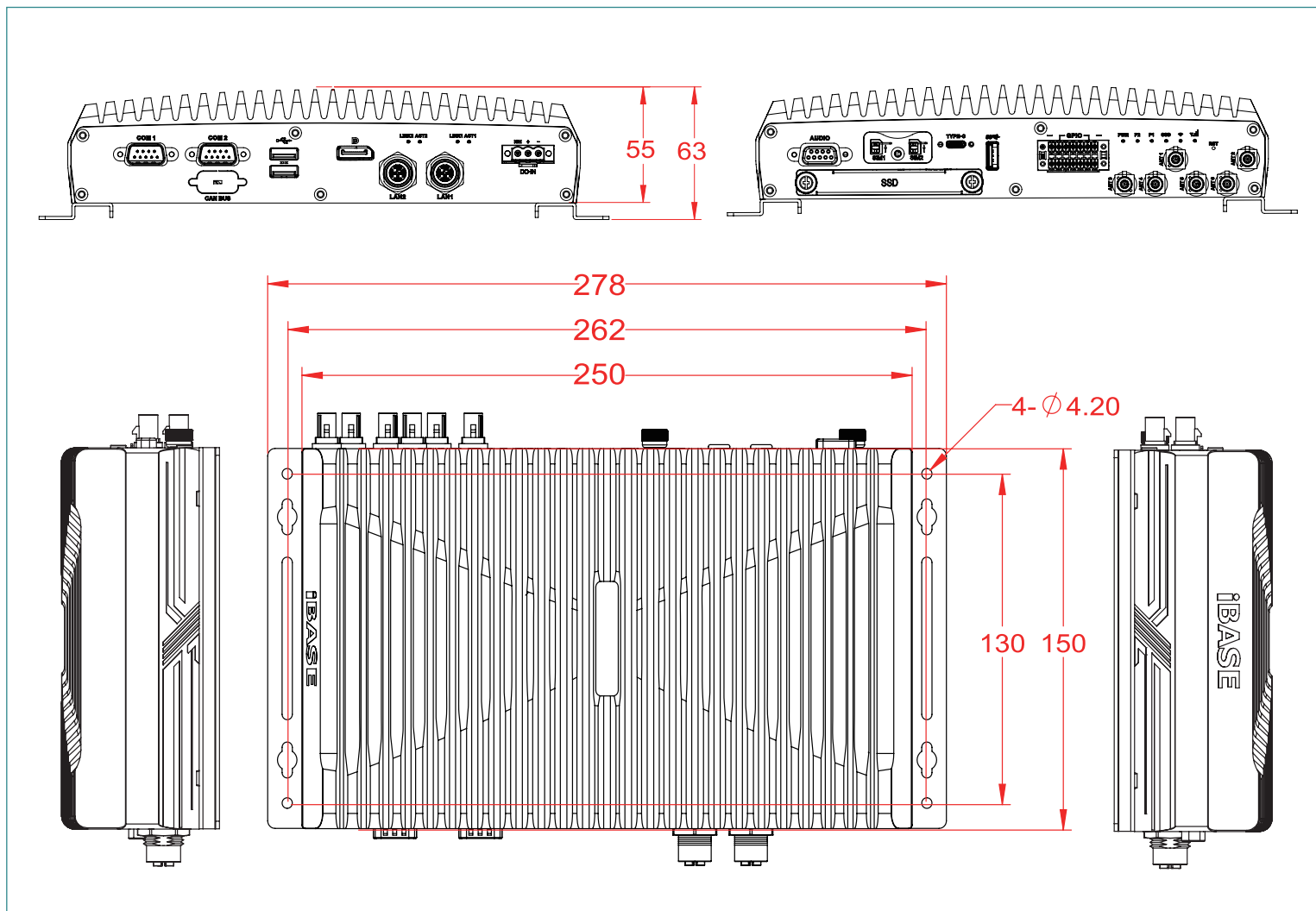
## Rear External I/O



## Front External I/O



## Dimensions



## Ordering Information

| Part Number        | Model Name   | CPU           | RAM | Storage | Display           | LAN<br>M12 X-Coded | USB                      | COM<br>Ports | M.2 or<br>Mini PCI-E | Power<br>Input | Note                                   |
|--------------------|--------------|---------------|-----|---------|-------------------|--------------------|--------------------------|--------------|----------------------|----------------|----------------------------------------|
| SO2MPT3100-OB1100R | MPT-3100V    | Atom® x7433RE | 8GB | N/A     | 1x DP<br>1x USB-C | 2                  | 1x USB 3.2<br>2x USB 2.0 | 2            | 5                    | 9V~36V         | 2x PoE(30W)                            |
| SO2MPT3100-OB1200R | MPT-3100V-AI |               |     |         |                   |                    |                          |              |                      |                | 2x PoE(30W)<br>w/ Hailo AI accelerator |

## Packing List

| Part Number        | Description                          | Qty. |
|--------------------|--------------------------------------|------|
| -                  | MPT-3100V                            | 1    |
| D2MANUAL--0000100P | Manual @ Driver download instruction | 1    |
| H06MTMPT3100V000AP | Wall mount bracket                   | 2    |
| C12165ESD03105200P | DC-in Matching Connector (3 pins)    | 1    |
| C1216022107103000P | GPIO Matching Connector (7 pins)     | 2    |
| H032GM15250010000P | Screw for SSD (if not pre-installed) | 4    |
| H0230561B710BN000P | Screw for wall mount                 | 4    |

## Optional Items

| Part Number         | Description                                                 |
|---------------------|-------------------------------------------------------------|
| C501LAN8208A32000P  | LAN cable: M12 X-Code to RJ45 CAT-6 (up to 2.5GbE)          |
| C501LAN6300A32000P  | LAN cable: M12 X-Code to RJ45 CAT-5 (up to 1.0GbE)          |
| -                   | Audio cable: DB9F to 3.5mm Audio jack for Line-out & MIC-in |
| A008MINIPCI-E09000P | CAN Bus module (Mini PCIe card)                             |
| C501PK11920203000P  | 20CM CAN Bus internal cable                                 |



## Features

- Robust M12 & FAKRA connectors with rich I/O interface
- Dual SIM sockets support WWAN redundancy
- Onboard isolated CAN 2.0A / 2.0B / CAN-FD
- Full car battery Ignition power control
- Two removable 2.5" device bay for SSD storage
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Wide-range voltage GPIO interface
- 1x USB Type-C Alternate mode with PD 60W
- Fanless and ruggedized design

## Specifications

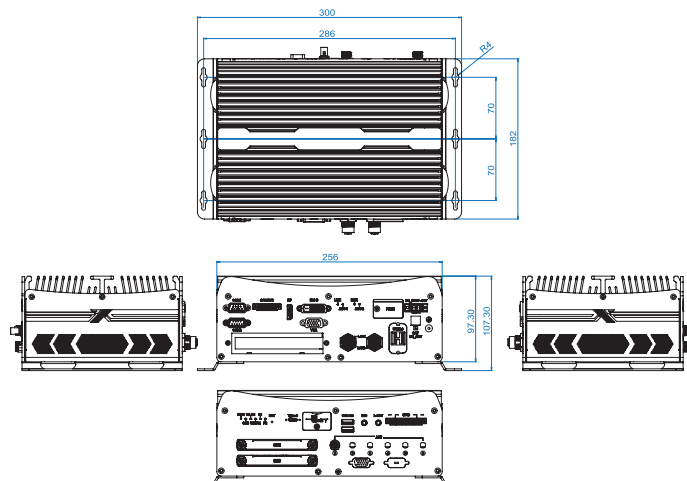
|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-7101V                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| CPU Type                 | 13th Gen Intel® Core U-Series Processor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Processor Speed          | Up to 3.0GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Memory                   | 2x 8GB DDR5-5200 SO-DIMM (dual-Channel)                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Front Panel External I/O | 2x USB 3.2 Gen2 stack Type-A connector<br>2x External accessible SIM socket<br>1x USB Type-C connector with screw-lock<br>2x Removable 2.5" SSD device bay<br>1x 3.5mm green color audio for Line-out<br>1x 3.5mm pink color audio for MIC-in<br>1x Reset button<br>1x 10-pin terminal block for isolated digital I/O<br>6x FAKRA antenna holes (optional SMA type)<br>6x Light-pipe for status LED indicators (2x programmable)                                    |
| Rear Panel External I/O  | 2x M12 X-code 8P female for 2.5 GbE LAN1/LAN2<br>2x USB 2.0 Type-A connector<br>1x 3-pin terminal block for DC-input<br>1x DisplayPort output<br>1x DVI-D connector, 1x VGA connector<br>1x 6-pin terminal block for 2 x isolated CAN bus<br>2x DB9M for COM#1 (RS232/422/485) / COM#2 (RS232 only)<br>1x Removable blade fuse holder<br>4x Light-pipe for LAN status LED indicators<br>1x PCI-E (x4) slot<br>1x M3 with washer screw hole for grounding connection |
| Storage                  | 1x M.2 2280 M-Key socket for NVMe SSD (PCI-E x4 [Gen.4])<br>2 x 2.5" removable device bay for SSD                                                                                                                                                                                                                                                                                                                                                                   |
| Expansion slots          | 1x M.2 2230 E-Key socket for WLAN & BT connection (PCI-E + USB2.0 + SMBus).<br>1x M.2 3042/52 B-Key socket for WWAN (4G/5G) connection (PCI-E + USB3.2 + SMBus).<br>1x M.2 2280 M-Key socket for NVMe SSD / Hailo AI module (PCI-E x4 [Gen.4])<br>1x Mini PCI-E full-size socket for MVB/CAN FD module (PCI-E + USB2.0 + SMBus)<br>1x Mini PCI-E half-size socket (USB 2.0)                                                                                         |
| Power Supply             | DC-input 9V ~ 36V                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Construction             | Aluminum                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Chassis Color            | Silver & Blue                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Mounting                 | Wall mount                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Dimensions               | 256.0 (W) x 182.0 (D) x 97.3 (H) mm<br>10.08" (W) x 7.17" (D) x 3.83" (H)                                                                                                                                                                                                                                                                                                                                                                                           |

|                       |                                                                                                                         |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | -40°C ~ 70°C (-40°F ~ 158°F) (w/o FAN & SSD)<br>-20°C ~ 55°C (-4°F ~ 131°F) (w/ PCI-E card)                             |
| Storage Temperature   | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                            |
| Relative Humidity     | 10 ~ 95% RH @45°C (non-condensing)                                                                                      |
| Vibration             | Operating/Non-operating (SSD): 2,26 Grms (5~500 Hz) / MIL-STD-810G, composite wheeled condition (Z-axis only)           |
| Shock                 | Operating: Sawtooth: 20G, 11msec (Z-axis) / MIL-STD-810G, Non-operating: Sawtooth: 40G, 11 msec (Z-axis) / MIL-STD-810G |
| Certified             | E-Mark-24<br>CE (EN 62368-1/EN55032/EN55035), FCC Class-A                                                               |

## Ordering Information

|           |                                                                                                                                 |
|-----------|---------------------------------------------------------------------------------------------------------------------------------|
| MPT-7100V | MPT-7100V with MBT-7101V, 13th Gen Intel® Core™ i7-1365URE Processor w/ 2x 8GB DDR5-5200, 2x SSD bay, No PSU, No storage (RoHS) |
|-----------|---------------------------------------------------------------------------------------------------------------------------------|

## Dimensions





## Specifications

|                          |                                                                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MBT-3001V                                                                                                                                                                                                                    |
| CPU Type                 | Intel® Atom® Processor E3845                                                                                                                                                                                                 |
| Processor Speed          | 1.91GHz                                                                                                                                                                                                                      |
| Memory                   | 2x 2GB DDR3L-1333 SO-DIMM (Dual Channel)                                                                                                                                                                                     |
| Front Panel External I/O | CFAST, 2.5" device bay, 2nd Mic-In & Line-Out<br>2x SIM sockets, 1x USB 3.0, 1x USB 2.0, Reset button, Status LEDs, 4x antenna connectors                                                                                    |
| Rear Panel External I/O  | DVI-D, VGA, 3x COMs (one with RS422/485 options)<br>2x GbE, 2x USB 2.0, power connection<br>1st Mic-In & Line-Out, GPIO, GbE status LEDs                                                                                     |
| Storage                  | 2.5" device bay for SSD & HDD                                                                                                                                                                                                |
| Expansion slots          | 1x Half-size Mini PCI-E socket (USB 2.0)<br>1x Full-size Mini PCI-E socket (USB 2.0 + PCI-E)<br>1x 2230 M.2 E-Key socket (USB 2.0 + PCI-E)<br>1x 3042 M.2 B-Key WWAN socket (USB 2.0)<br>1x 2280 M.2 M-Key SSD socket (SATA) |
| Power Supply             | DC 9V~36V                                                                                                                                                                                                                    |
| Construction             | Aluminum                                                                                                                                                                                                                     |
| Chassis Color            | Black                                                                                                                                                                                                                        |
| Mounting                 | Custom mounting rail                                                                                                                                                                                                         |
| Dimensions               | 256.0 (W) x 182.0 (D) x 55.0 (H) mm<br>10.08" (W) x 7.17" (D) x 2.16" (H)                                                                                                                                                    |
| Operating Temperature    | SSD: -40°C ~ 70°C (-40°F~158°F)<br>HDD: -20°C ~ 50°C (-4°F~122°F)                                                                                                                                                            |
| Storage Temperature      | -40°C ~ 85°C (-40°F~185°F)                                                                                                                                                                                                   |
| Relative Humidity        | -40°C ~ 85°C (-40°F~185°F)                                                                                                                                                                                                   |
| Vibration                | Operating/Non-operating (SSD): 2.26 Grms (5~500 Hz) / MIL-STD-810G composite wheeled condition (Z-axis only)<br>Operating/Non-operating (HDD): 1.04 Grms (5~500 Hz) / MIL-STD-810G highway truck condition (Z-axis only)     |
| Shock                    | Non-operating: Sawtooth: 40G, 11 msec (Z-axis)<br>Operating: Sawtooth: 20G, 11msec (Z-axis)                                                                                                                                  |
| Certified                | E-mark, CE class B, FCC class B                                                                                                                                                                                              |

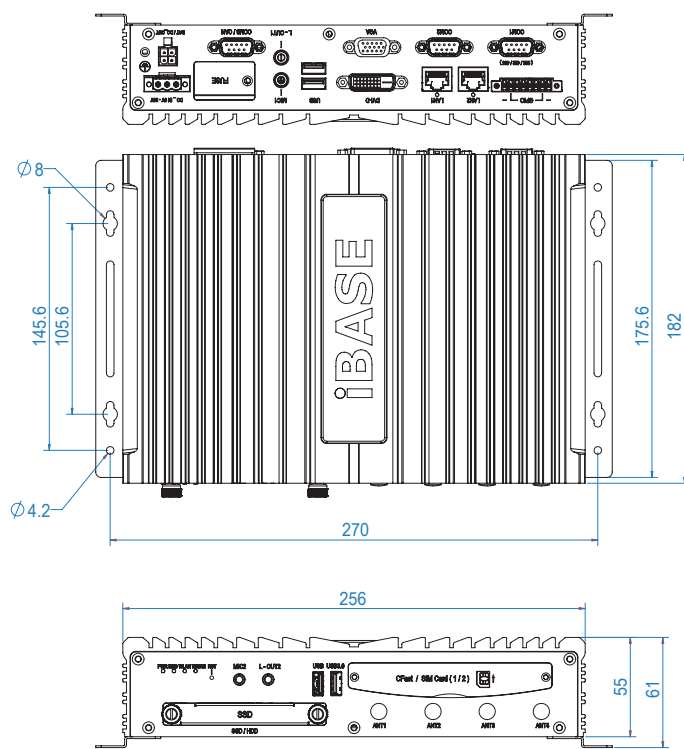
## Features

- Fanless and ruggedized design
- Dual SIM sockets support WWAN redundancy
- Removable 2.5" device bay and CFAST socket
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Fully car battery power control
- Wide-range voltage GPIO interface
- Optional CAN 2.0B/ OBD-II function (SAE J1939)

## Ordering Information

|               |                                                                                                                 |
|---------------|-----------------------------------------------------------------------------------------------------------------|
| MPT-3000VSM   | MPT-3000V with MBT-3001V, Intel® Atom® Processor E3845 w/ 2x 2GB DDR3L-1333, SSD bay, No PSU, No storage (RoHS) |
| LTE-ANT-INT-1 | 20cm 4G/3G WWAN antenna cable from M.2 to SMA Jack                                                              |
| LTE-ANT-INT-2 | 20cm 4G/3G WWAN antenna cable from mPCI-E to SMA Jack                                                           |

## Dimensions





## Features

- Fanless and ruggedized design
- Dual SIM sockets support WWAN redundancy
- Two removable 2.5" device bay and CFast socket
- Rich I/O interfaces for wireless, SSD, GPS, WWAN and add-on card expansion
- Full car battery power control
- Wide-range voltage GPIO interface
- One PCI-E (x4) expansion

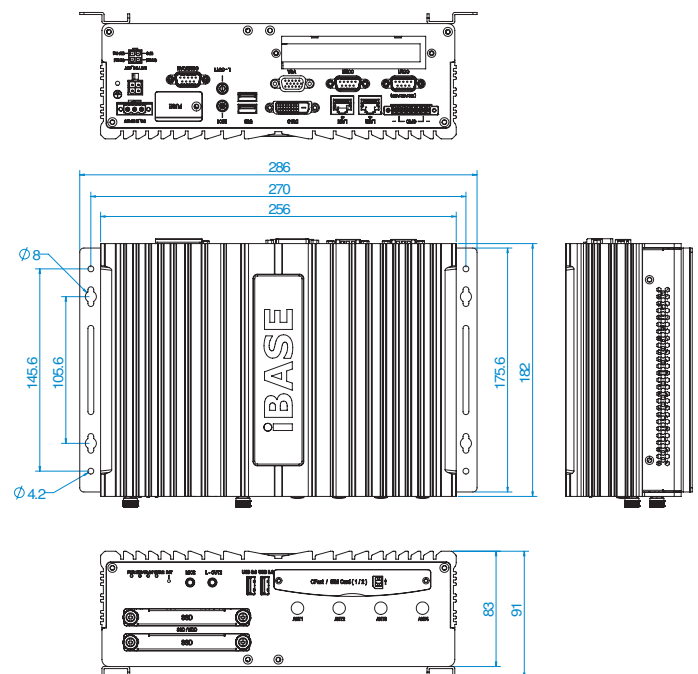
## Specifications

|                          |                                                                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System Mainboard         | MPT-7001V                                                                                                                                                                                                                    |
| CPU Type                 | 7th/6th Gen Intel® Core Processor                                                                                                                                                                                            |
| Processor Speed          | 2.6GHz                                                                                                                                                                                                                       |
| Memory                   | 2x 4GB DDR4-2133 SO-DIMM (Dual Channel)                                                                                                                                                                                      |
| Front Panel External I/O | CFast, 2.5" device bay, 2nd Mic-In & Line-Out<br>2x SIM sockets, 2x USB 3.0, Reset button<br>Status LEDs, 4x antenna connectors                                                                                              |
| Rear Panel External I/O  | DVI-D, VGA, 3x COMs (one with RS422/485 options)<br>2x GbE, 2x USB 2.0, power connection, 1st Mic-In & Line-Out, GPIO, GbE status LEDs, 1x PCI-E (x4) slot                                                                   |
| Storage                  | 2x 2.5" device bay for SSD & HDD                                                                                                                                                                                             |
| Expansion slots          | 1x Half-size Mini PCI-E socket (USB 2.0)<br>1x Full-size Mini PCI-E socket (USB 2.0 + PCI-E)<br>1x 2230 M.2 E-Key socket (USB 2.0 + PCI-E)<br>1x 3042 M.2 B-Key WWAN socket (USB 2.0)<br>1x 2280 M.2 M-Key SSD socket (SATA) |
| Power Supply             | DC 9V~36V                                                                                                                                                                                                                    |
| Construction             | Aluminum                                                                                                                                                                                                                     |
| Chassis Color            | Black                                                                                                                                                                                                                        |
| Mounting                 | Custom mounting rail                                                                                                                                                                                                         |
| Dimensions               | 256.0 (W) x 182.0 (D) x 83.0 (H) mm<br>10.08" (W) x 7.17" (D) x 3.27" (H)                                                                                                                                                    |
| Operating Temperature    | SSD: -30°C ~ 55°C (-22°F ~ 131°F)<br>HDD: -20°C ~ 45°C (-4°F ~ 113°F)<br>SSD: -40°C ~ 70°C (-40°F ~ 158°F) system only                                                                                                       |
| Storage Temperature      | -35°C ~ 85°C (-31°F ~ 185°F)                                                                                                                                                                                                 |
| Relative Humidity        | 10 ~ 95% RH @ 45°C (non-condensing)                                                                                                                                                                                          |
| Vibration                | Operating/Non-operating (SSD): 2.26 Grms (5~500 Hz) / MIL-STD-810G composite wheeled condition (Z-axis only)<br>Operating/Non-operating (HDD): 1.04 Grms (5~500 Hz) / MIL-STD-810G highway truck condition (Z-axis only)     |
| Shock                    | Non-operating: Sawtooth: 40G, 11 msec (Z-axis)<br>Operating: Sawtooth: 20G, 11 msec (Z-axis)                                                                                                                                 |
| Certified                | E-mark, CE class B, FCC class B                                                                                                                                                                                              |

## Ordering Information

|                |                                                                                                                             |
|----------------|-----------------------------------------------------------------------------------------------------------------------------|
| MPT-7000VSM    | MPT-7000V with MBT-7001V, 6th Gen Intel® Core™ i7-6600U Processor w/ 2x 4GB DDR4-2133, 2xSSD bay, No PSU, No storage (RoHS) |
| LTE-ANT-INT-1  | 20cm 4G/3G WWAN antenna cable from M.2 to SMA Jack                                                                          |
| LTE-ANT-INT-2  | 20cm 4G/3G WWAN antenna cable from mPCI-E to SMA Jack                                                                       |
| WLAN-ANT-INT-1 | 20cm WLAN antenna cable from M.2 to SMA Jack                                                                                |

## Dimensions





## Features

- Intel® Atom® x7-E3950 / Pentium® N4200 Processor
- Sunlight readable 1000nits bar type panel
- Auto-dimming function
- IP65 front-panel waterproof protection
- Anti-scattering front side glass



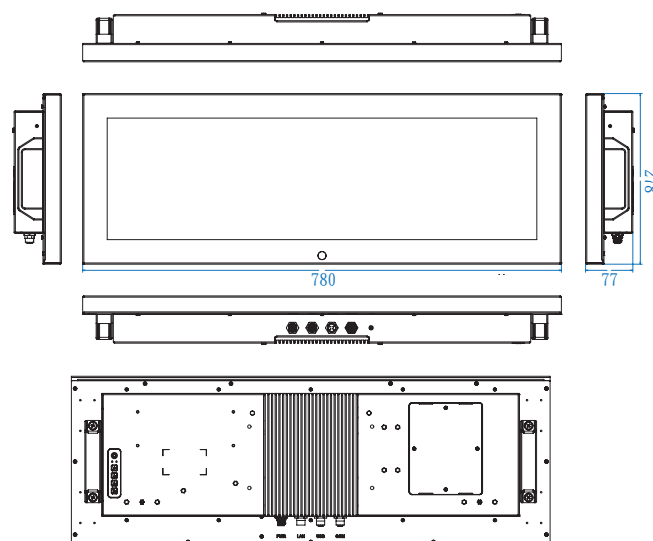
## Specifications

|                            |                                                                                                                                                    |
|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU Type                   | MRD286-N42: Intel® Pentium® Processor N4200 (1.1GHz~2.5GHz)<br>MRD286-I50: Intel® Atom™ x7-E3950 Processor (1.6GHz~2.0GHz)                         |
| Memory                     | 2x DDR3L SO-DIMM, Max. 8GB, 1x Default 4GB                                                                                                         |
| Display Size               | 28.6"                                                                                                                                              |
| Max. Resolution            | 1920 x 540                                                                                                                                         |
| Luminance (cd/m²)          | 1,000                                                                                                                                              |
| Contrast                   | 1000:1                                                                                                                                             |
| Max. Color                 | 16.7M                                                                                                                                              |
| View Angle (H°/V°)         | 178/178                                                                                                                                            |
| Backlight Lifetime(hrs)    | 50,000                                                                                                                                             |
| Touch Type                 | None, enhanced glass, anti-scattering, IK07 rating                                                                                                 |
| Touch Interface            | None                                                                                                                                               |
| Light Transmission (%)     | 90                                                                                                                                                 |
| Point of touch             | None                                                                                                                                               |
| I/O Interface              | 1x 8-pin M12 A-code for 2x USB 2.0<br>1x 8-pin M12 A-code for RS-232/422/485<br>1x 8-pin M12 X-code GbE LAN<br>1x 3-pin M12 A-code power connector |
| Power Button               | IP65 membrane key                                                                                                                                  |
| Power Input Range          | 24V DC or 110V DC                                                                                                                                  |
| Membrane Control           | Dimming control, power on/off                                                                                                                      |
| Audio                      | 2x IP65 2W speaker                                                                                                                                 |
| Internal Expansion         | None                                                                                                                                               |
| Wireless                   | Optional                                                                                                                                           |
| Storage                    | 1x 2.5" HDD space, default 64GB SSD, easy accessible                                                                                               |
| IP Rating                  | IP65 front panel, other sides IP43                                                                                                                 |
| Thermal Design             | Fanless                                                                                                                                            |
| Construction               | Metal                                                                                                                                              |
| Chassis Color (Front/Back) | Black/Black                                                                                                                                        |
| Mounting                   | Side mount, VESA 100x100                                                                                                                           |
| Dimensions                 | 780 (W) x 278 (D) x 77 (H) mm<br>30.7"(W) x 10.9"(D) x 3.03"(H)                                                                                    |
| Net Weight                 | 1.5 kgs                                                                                                                                            |
| Operating Temperature      | -25°C ~ 55°C (-13°F ~ 131°F)                                                                                                                       |
| Storage Temperature        | -25°C~70°C (-13°F ~ 158°F)                                                                                                                         |
| Storage Humidity           | 0~90% @40°C                                                                                                                                        |
| Certified                  | CE/FCC Class-A +LVD<br>EN50155, EN45545-2 Compliance                                                                                               |
| Operating Systems          | Windows 10, Linux Kernel 4.X                                                                                                                       |

## Ordering Information

|             |                                                                                                                           |
|-------------|---------------------------------------------------------------------------------------------------------------------------|
| MRD286-N42  | 28.6" 1920 x 540 Bar Type-AIO, Intel® Pentium® Processor N4200, 4GB memory, 64GB SSD, 24VDC power input, without adaptor  |
| MRD286-N42H | 28.6" 1920 x 540 Bar Type-AIO, Intel® Pentium® Processor N4200, 4GB memory, 64GB SSD, 110VDC power input, without adaptor |
| MRD286-I50  | 28.6" 1920 x 540 Bar Type-AIO, Intel® Atom® x7-E3950 Processor, 4GB memory, 64GB SSD, 24VDC power input, without adaptor  |
| MRD286-I50H | 28.6" 1920 x 540 Bar Type-AIO, Intel® Atom® x7-E3950 Processor, 4GB memory, 64GB SSD, 110VDC power input, without adaptor |

## Dimensions





### Specifications

|                            |                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|
| CPU Type                   | Intel® Atom® x7-E3950 Processor 1.6GHz, up to 2.0GHz                                                                 |
| Memory                     | Max DDR3L 8GB, Default 4GB                                                                                           |
| Display Size               | 10.4"                                                                                                                |
| Max. Resolution            | 1024x768                                                                                                             |
| Luminance (cd/m²)          | 500                                                                                                                  |
| Contrast                   | 1000:1                                                                                                               |
| Max. Color                 | 16.2M                                                                                                                |
| View Angle (H°/V°)         | 176/176                                                                                                              |
| Backlight Lifetime(hrs)    | 50,000                                                                                                               |
| Touch Type                 | Projected capacitive                                                                                                 |
| Touch Interface            | USB                                                                                                                  |
| Light Transmission (%)     | 89                                                                                                                   |
| Point of touch             | 10                                                                                                                   |
| I/O Interface              | 2x M12 A-code 8P GbE<br>2x M12 D-code 4P USB 2.0<br>1x M12 A-code 8P for RS-232/422/485<br>1x M12 A-code 4P DC-input |
| Power Button               | Membrane key                                                                                                         |
| Power Input Range          | DC24V or DC 72V/ 110V                                                                                                |
| Membrane Control           | Brightness up/down, volume up/down, power on/off                                                                     |
| Audio                      | 2x speakers                                                                                                          |
| Internal Expansion         | 1x miniPCI-E (Full size)<br>1x miniPCI-E (Half size)                                                                 |
| Wireless                   | Optional, Via miniPCI-E device                                                                                       |
| Storage                    | 1x 2.5" HDD space, default 64GB SSD                                                                                  |
| Thermal Design             | Fanless                                                                                                              |
| Construction               | Aluminums                                                                                                            |
| Chassis Color (Front/Back) | Black/Black                                                                                                          |
| IP Rating                  | IP65                                                                                                                 |
| Mounting                   | VESA 100x100/Rack mount                                                                                              |
| Dimensions                 | 275mm(W) x 256mm(D) x 63mm(H)<br>10.8"(W) x 6.14"(D) x 2.48"(H)                                                      |
| Net Weight                 | 4.3 kgs                                                                                                              |
| Operating Temperature      | -30°C ~ 70°C (-22°F ~ 158°F) with SSD, not including add-on cards                                                    |
| Storage Temperature        | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                         |
| Storage Humidity           | 10%~90% @40°C (non-condensing)                                                                                       |
| Certified                  | EN50155:2017, EN45545-2<br>CE/FCC class-A                                                                            |

### Features

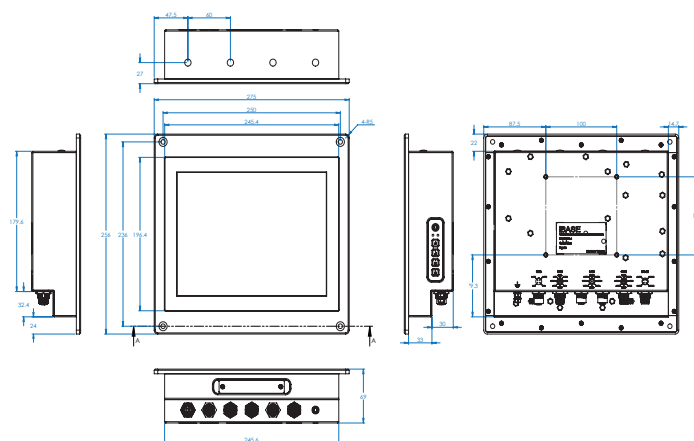
- Intel® Atom® x7-E3950 Processor
- EN50155 (2021) & EN45545-2 certified
- Fully IP65 waterproof protection
- Supports ultra-long-life LCD panel, M12 connectors
- Flat bezel design, projected capacitive 10.4" touch screen
- Optional wireless communication
- Supports 24V DC or 72/110V DC power input
- Auto dimming adjustable



|                   |                                                                                                                                                                          |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Systems | Windows 10 64bit/ Linux Kernel 4.X                                                                                                                                       |
| MPPC1001PC        | 10.4" EN50155 Certified Panel PC with IB818F-I50, Intel® Atom® x7-E3950 Processor, 4GB DDR3L memory, 64G SSD Storage, M12 connectors, DC 24V power input, no adaptor     |
| MPPC1001PCH       | 10.4" EN50155 Certified Panel PC with IB818F-I50, Intel® Atom® x7-E3950 Processor, 4GB DDR3L memory, 64G SSD Storage, M12 connectors, DC 72/110V power input, no adaptor |

### Ordering Information

### Dimensions





### Features

- Intel® Atom® x6425E processor
- EN50155 (2021) & EN45545-2 certified
- Fully IP65 waterproof protection
- Supports ultra-long-life LCD panel, M12 connectors
- Flat bezel design, projected capacitive 12.1" touch screen
- Optional Auto dimming adjustable
- Supports 24V DC or 72/110V DC power input

### Specifications

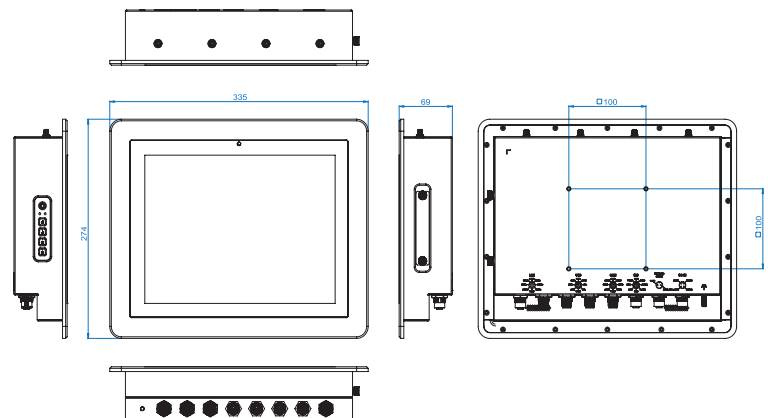
|                            |                                                                                                                                                                                                                     |
|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU Type                   | Intel® Atom® QC x6425E Processor, 2.0GHz , up to 3.0GHz                                                                                                                                                             |
| Memory                     | 2x DDR4-3200 4GB, Max 32GB                                                                                                                                                                                          |
| Display Size               | 12.1" TFT-LCD                                                                                                                                                                                                       |
| Max. Resolution            | 1024x768                                                                                                                                                                                                            |
| Luminance (cd/m2)          | 500                                                                                                                                                                                                                 |
| Contrast                   | 1000:1                                                                                                                                                                                                              |
| Max. Color                 | 16.2M                                                                                                                                                                                                               |
| View Angle (H°/V°)         | 176/176                                                                                                                                                                                                             |
| Backlight Lifetime(hrs)    | 30,000                                                                                                                                                                                                              |
| Touch Type                 | Projected capacitive                                                                                                                                                                                                |
| Touch Interface            | USB                                                                                                                                                                                                                 |
| Light Transmission (%)     | 86                                                                                                                                                                                                                  |
| Point of touch             | 10                                                                                                                                                                                                                  |
| I/O Interface              | 2x M12 X-code 8P GbE<br>2x M12 D-code 4P USB 2.0<br>1x M12 A-code 8P RS232/422/485<br>1x M12 A-code 8P DIO (4in/2out)<br>1x M12 A-code 4P DC-input<br>1x M12 A-code 2P remote control<br>1x M4 size earth grounding |
| Power Button               | Membrane key                                                                                                                                                                                                        |
| Power Input Range          | DC24V or DC 72V/110V                                                                                                                                                                                                |
| Membrane Control           | Brightness up/down, volume up/down, power on/off                                                                                                                                                                    |
| Audio                      | 2x speakers for optional                                                                                                                                                                                            |
| Internal Expansion         | 1x Full-sized Mini-PCI-E slot (USB2.0 + SATA + PCI-E(x1))<br>1x M.2 E-Key 2230 socket (USB 2.0)                                                                                                                     |
| Wireless                   | Optional 4G and WiFi modules                                                                                                                                                                                        |
| Storage                    | 1x 2.5" device bay for SSD                                                                                                                                                                                          |
| Thermal Design             | Fanless                                                                                                                                                                                                             |
| Construction               | Aluminum                                                                                                                                                                                                            |
| Chassis Color (Front/Back) | Black/Black                                                                                                                                                                                                         |
| IP Rating                  | IP65                                                                                                                                                                                                                |
| Mounting                   | VESA 100x100<br>Panel mount (IP65 front panel only)                                                                                                                                                                 |
| Dimensions                 | 335mm (W) x274mm (D) x69mm (H)<br>13.19"(W) x 10.79"(D) x 2.7"(H)                                                                                                                                                   |
| Net Weight                 | 3.1 kg                                                                                                                                                                                                              |
| Operating Temperature      | -40°C ~70°C, with industrial-grade SSD, not included add-on cards                                                                                                                                                   |

|                     |                                             |
|---------------------|---------------------------------------------|
| Storage Temperature | -40°C~85°C (-40°F~185°F)                    |
| Storage Humidity    | 5%~90% @40°C (non-condensing)               |
| Certified           | EN50155:2017<br>EN45545-2<br>CE/FCC class-A |
| Operating Systems   | Windows 10 64bit<br>Linux Kernel 4.X        |

### Ordering Information

|             |                                                                                                                                                                                   |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MPPC1201PC  | 12.1" EN50155 Certified Panel PC with IB836F-6425E, Intel® Atom™ Processor x6425E, 4GB DDR4 memory, industrial-grade 64GB SSD, M12 connectors, DC 24V power input, no adaptor     |
| MPPC1201PCH | 12.1" EN50155 Certified Panel PC with IB836F-6425E, Intel® Atom™ Processor x6425E, 4GB DDR4 memory, industrial-grade 64GB SSD, M12 connectors, DC 72/110V power input, no adaptor |

### Dimensions





### Specifications

|                            |                                                                                                                      |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|
| CPU Type                   | Intel® Atom® x7-E3950 Processor 1.6GHz, up to 2.0GHz                                                                 |
| Memory                     | DDR3L, Default 4GB, Max. 8GB                                                                                         |
| Display Size               | 15"                                                                                                                  |
| Max. Resolution            | 1024x768                                                                                                             |
| Luminance (cd/m²)          | 500                                                                                                                  |
| Contrast                   | 1800:1                                                                                                               |
| Max. Color                 | 16.7M                                                                                                                |
| View Angle (H°/V°)         | 178/178                                                                                                              |
| Backlight Lifetime(hrs)    | 70,000                                                                                                               |
| Touch Type                 | Projected capacitive                                                                                                 |
| Touch Interface            | USB                                                                                                                  |
| Light Transmission (%)     | 89                                                                                                                   |
| Point of touch             | 10                                                                                                                   |
| I/O Interface              | 2x M12 A-code 8P GbE<br>3x M12 D-code 4P USB 2.0<br>1x M12 A-code 8P for RS-232/422/485<br>1x M12 A-code 4P DC-input |
| Power Button               | Membrane key                                                                                                         |
| Power Input Range          | DC24V or DC 72V/110V                                                                                                 |
| Membrane Control           | Brightness up/down, volume up/down, power on/off                                                                     |
| Audio                      | 2x speakers                                                                                                          |
| Internal Expansion         | 1x miniPCI-E (Full size)<br>1x miniPCI-E (Half size)                                                                 |
| Wireless                   | Optional, via mini-PCI-E device                                                                                      |
| Storage                    | 1x 2.5" HDD space, default 128G SSD                                                                                  |
| Thermal Design             | Fanless                                                                                                              |
| Construction               | Aluminums                                                                                                            |
| Chassis Color (Front/Back) | Black/Black                                                                                                          |
| IP Rating                  | IP65                                                                                                                 |
| Mounting                   | VESA 100x100/Rack mount                                                                                              |
| Dimensions                 | 382.1mm (W) x 304.8mm (D) x 54.4mm (H)<br>15.04"(W) x 12"(D) x 2.14"(H)                                              |
| Net Weight                 | 6.36 kg                                                                                                              |
| Operating Temperature      | -30°C ~ 70°C (-22°F ~ 158°F) with SSD, not including add-on cards                                                    |
| Storage Temperature        | -40°C ~ 85°C (-40°F ~ 185°F)                                                                                         |
| Storage Humidity           | 10%~90% @40°C (non-condensing)                                                                                       |
| Certified                  | EN50155:2017, EN45545-2<br>CE/FCC Class-A                                                                            |

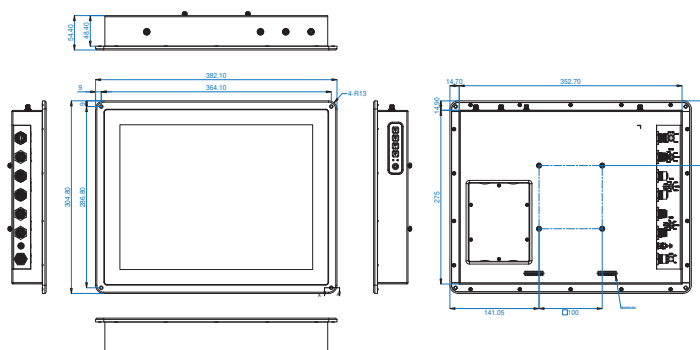
### Features

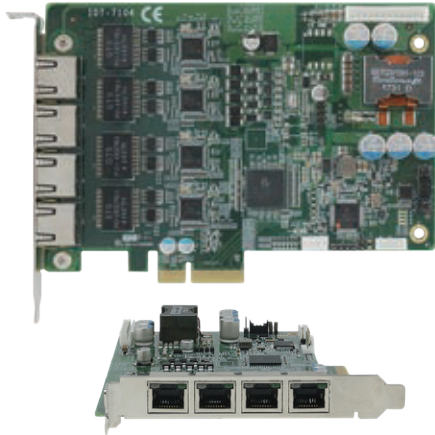
- Intel® Atom® x7-E3950 Processor
- EN50155 (2017) & EN45545-2 certified
- Fully IP65 waterproof protection
- Supports ultra-long-life LCD panel, M12 connectors
- Flat bezel design, projected capacitive 15" touch screen
- Optional wireless communication
- Supports 24V DC or 72/110V DC power input



|                   |                                                                                                                                                                        |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Systems | Windows 10 64bit/ Linux Kernel 4.X                                                                                                                                     |
| MPPC1501PC        | 15" EN50155 Certified Panel PC with IB818-I50, Intel® Atom® x7-E3950 Processor, 4GB DDR3L memory, 128G SSD Storage, M12 connectors, DC 24V power input, no adaptor     |
| MPPC1501PCH       | 15" EN50155 Certified Panel PC with IB818-I50, Intel® Atom® x7-E3950 Processor, 4GB DDR3L memory, 128G SSD Storage, M12 connectors, DC 72/110V power input, no adaptor |

### Dimensions





## Features

- 4x PCI Express® compliant
- 4x independent Gigabit Ethernet ports support
- IEEE 802.3af/at for Power over Ethernet support
- IEEE 1588, PTP technology support
- Link aggregation/jumbo frames (9 K-Byte) support
- Operating temperature: -40°C ~ 70°C (-40°F ~ 158°F)

## Specifications

|                       |                                                                                                                                                                                |
|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Form Factor           | 4x PCI Express® compliant                                                                                                                                                      |
| Power Input           | Maximal 10A @12VDC, directly from onboard power connector                                                                                                                      |
| LAN Chipset           | Four Intel® i210IT Ethernet controllers                                                                                                                                        |
| Cable Requirement     | CAT-5e or CAT-6 cable, maximum 100 meters                                                                                                                                      |
| Hipot                 | 1.5 KV                                                                                                                                                                         |
| Surge                 | ±2KV surge protection                                                                                                                                                          |
| PoE Power Output      | 802.3af/at compliant (802.3AT type 1,2)<br>Powered Device (PD) auto detection<br>Power Level Classification: Class 1, 2, 3, 4<br>25.5W@48VDC power output (per powered-device) |
| Conformity            | CE, FCC Class-A, RoHS                                                                                                                                                          |
| Operating Temperature | -40°C ~ 70°C (-40°F ~ 158°F)                                                                                                                                                   |
| Storage Temperature   | -35°C ~ 85°C (-31°F ~ 185°F)                                                                                                                                                   |
| Operating Humidity    | 10%~95% @ 45°C (non-condensing)                                                                                                                                                |
| Dimensions            | 155 x 111 mm (6.10" x 4.37")                                                                                                                                                   |
| Power Consumption     | Max. 120W with 4x PoE power load                                                                                                                                               |
| Construction          | Aluminum                                                                                                                                                                       |
| Operating System      | XPe / W7 Pro / WE8 STD / Ubuntu 11.10 above /<br>Linux distributions with kernel 3.0 above                                                                                     |

## Ordering Information

|          |                                     |
|----------|-------------------------------------|
| IDT-7104 | 4-channel PoE card with power cable |
|----------|-------------------------------------|

## Dimensions

