

# Portable Computing Platforms



## Selection Guide

| Model Name             |                        | MARS-1030 Numeric Keypad Version                                                                                                                                      | MARS-1030 Full Keypad Version                                     | MARS-1031 Numeric Keypad Version                                    | MARS-1031 Full Keypad Version                                     |
|------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------|
| Processor              |                        | Intel Xscale PXA255 400 MHz                                                                                                                                           |                                                                   |                                                                     | Intel Xscale PXA270 520 MHz                                       |
| OS                     |                        | Supports Windows CE .NET 5.0 Professional                                                                                                                             |                                                                   |                                                                     |                                                                   |
| Memory                 |                        | 128 MB SDRAM                                                                                                                                                          |                                                                   |                                                                     |                                                                   |
| Storage                |                        | 64 MB NAND flash                                                                                                                                                      |                                                                   | 128 MB NAND flash                                                   |                                                                   |
| Graphics               | Size/Type              | 3.5" transfective TFT LCD                                                                                                                                             |                                                                   |                                                                     |                                                                   |
|                        | Max. Resolution        | 240 x 320                                                                                                                                                             |                                                                   |                                                                     |                                                                   |
|                        | Max. Colors            | 256 K                                                                                                                                                                 |                                                                   |                                                                     |                                                                   |
|                        | Viewing Angle (degree) | 50/50                                                                                                                                                                 |                                                                   |                                                                     |                                                                   |
|                        | Touch Screen           | 4-wire resistive                                                                                                                                                      |                                                                   |                                                                     |                                                                   |
| VGA                    | Chipset                | nVidia 2D graphic accelerator                                                                                                                                         |                                                                   |                                                                     |                                                                   |
|                        | RAM                    | Internal 256 KB SRAM                                                                                                                                                  |                                                                   |                                                                     |                                                                   |
| Brightness Control     |                        | Software control or hotkey control                                                                                                                                    |                                                                   |                                                                     |                                                                   |
| I/O Port               |                        | DC-in jack<br>LIF connector<br>(supports RS-232, USB v1.1 host/client)                                                                                                |                                                                   |                                                                     |                                                                   |
| Keypad & Button        | Keypad                 | 16 Alphanumeric keys                                                                                                                                                  | 44 Alphanumeric keys                                              | 16 Alphanumeric keys                                                | 44 Alphanumeric keys                                              |
|                        | Button                 | Power button<br>Three barcode scanner buttons<br>Four application buttons<br>Application hotkey (programmable)<br>Four buttons for navigation (left, right, up, down) |                                                                   |                                                                     |                                                                   |
| Expansion              |                        | 1 x CF type II slot or PCMCIA slot<br>1 x SD/MMC slot                                                                                                                 |                                                                   |                                                                     |                                                                   |
| Audio                  | Speaker                | mono speaker                                                                                                                                                          |                                                                   |                                                                     |                                                                   |
|                        | Microphone             | -                                                                                                                                                                     |                                                                   |                                                                     |                                                                   |
|                        | Earphone               | 2.5 mm stereo earphone jack with microphone                                                                                                                           |                                                                   |                                                                     |                                                                   |
| LED Indicator          |                        | 1 x triple-color LED for charger indicator and alarm notification<br>1 x bi-color LED for scanner indicator                                                           |                                                                   |                                                                     |                                                                   |
| Wireless Module        | WLAN                   | 802.11b (Optional)                                                                                                                                                    |                                                                   | 802.11b/g (Optional)                                                |                                                                   |
|                        | Bluetooth              | Bluetooth v1.2 (Optional)                                                                                                                                             |                                                                   |                                                                     |                                                                   |
|                        | WAN                    | Tri-band GSM/GPRS (Optional)                                                                                                                                          |                                                                   |                                                                     |                                                                   |
| Add-on Module          |                        | 1D Barcode scanner (Optional)<br>2D Barcode scanner (Optional)                                                                                                        |                                                                   |                                                                     |                                                                   |
| Power                  | Battery                | Li-ion battery pack 3.7 V, 3000 mAh                                                                                                                                   |                                                                   |                                                                     |                                                                   |
|                        | Battery Life           | 8 hours                                                                                                                                                               |                                                                   |                                                                     |                                                                   |
|                        | Charging Time          | 4 hours                                                                                                                                                               |                                                                   |                                                                     |                                                                   |
|                        | Adapter                | Auto-switching 100 ~ 240 V AC, 50/60 Hz input; 5 V DC 2.6 A output                                                                                                    |                                                                   |                                                                     |                                                                   |
| Operating Temperature  |                        | -10 ~ 50° C                                                                                                                                                           |                                                                   |                                                                     |                                                                   |
| Storage Temperature    |                        | -20 ~ 70° C                                                                                                                                                           |                                                                   |                                                                     |                                                                   |
| IP Rating              |                        | IP54                                                                                                                                                                  |                                                                   | IP65                                                                |                                                                   |
| Drop Rating            |                        | 5 ft free drop to concrete                                                                                                                                            |                                                                   |                                                                     |                                                                   |
| Certificate            |                        | UL/cUL, CE, FCC Class B                                                                                                                                               |                                                                   |                                                                     |                                                                   |
| Dimensions (L x W x D) |                        | 192.5 x 91.3/78 x 42.2/60.6 mm<br>(7.58" x 3.6"/3.7" x 1.66"/2.39")                                                                                                   | 220 x 91.3/78 x 42.2/60.6 mm<br>(8.66" x 3.6"/3.7" x 1.66"/2.39") | 192.5 x 91.3/78 x 42.2/60.6 mm<br>(7.58" x 3.6"/3.7" x 1.66"/2.39") | 220 x 91.3/78 x 42.2/60.6 mm<br>(8.66" x 3.6"/3.7" x 1.66"/2.39") |
| Weight                 |                        | 560 g with standard battery                                                                                                                                           | 660 g with standard battery                                       | 560 g with standard battery                                         | 660 g with standard battery                                       |
| Reference Page         |                        | 13-2                                                                                                                                                                  | 13-2                                                              | 13-2                                                                | 13-2                                                              |



## Selection Guide

| Model Name               |                        | MARS-3100R                                                                                                                                                                              | MARS-3100R with Sunlight Readable Solution                                     | MARS-3100S                                                                                     |
|--------------------------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| Processor                |                        | Intel Core Duo Ultra Low Voltage U2500 @ 1.2 GHz                                                                                                                                        |                                                                                | AMD LX800 500 MHz                                                                              |
| OS                       |                        | Supports Windows XP compatible                                                                                                                                                          |                                                                                | Supports Windows XP Embedded                                                                   |
| Memory                   |                        | 1 GB DDR2 533, 200-pin SODIMM                                                                                                                                                           |                                                                                | 512 MB DDR 400, 200-pin SODIMM                                                                 |
| Storage                  |                        | Default 2.5" 40 GB shock mounted HDD                                                                                                                                                    |                                                                                | Default 4 GB CF for storage                                                                    |
| Graphics                 | Size/Type              | 10.4" TFT LCD                                                                                                                                                                           |                                                                                | 10.4" TFT LCD                                                                                  |
|                          | Max. Resolution        | XGA, 1024 x 768                                                                                                                                                                         |                                                                                | SVGA, 800 x 600                                                                                |
|                          | Max. Colors            | 256 K                                                                                                                                                                                   |                                                                                | 256 K                                                                                          |
|                          | Viewing Angle (Degree) | 50/90                                                                                                                                                                                   |                                                                                | 120/100                                                                                        |
|                          | Touchscreen            | Dual mode, digitizer and resistive touchscreen                                                                                                                                          | Dual mode, digitizer and resistive touchscreen with sunlight readable solution | Resistive touchscreen                                                                          |
| VGA                      | Chipset                | Intel 945GME chipset                                                                                                                                                                    |                                                                                | AMD CS5536 chipset                                                                             |
|                          | RAM                    | 64~224 MB shared memory                                                                                                                                                                 |                                                                                | 8~254 MB shared memory                                                                         |
| Brightness Control       |                        | 8-level brightness by software control                                                                                                                                                  |                                                                                |                                                                                                |
| I/O Port                 |                        | RS-232<br>Two USB v2.0<br>15-pin D-Sub for VGA out<br>RJ-45 jack for 10/100 Ethernet<br>DC in jack                                                                                      |                                                                                | RS-232<br>USB v2.0<br>15-pin D-Sub for VGA out<br>RJ-45 jack for 10/100 Ethernet<br>DC in jack |
| Keypad & Button          | Button                 | Power button<br>Logon button<br>Rotation key (for display)<br>WLAN ON/OFF button<br>Three application hotkeys (programmable)<br>5-way navigation buttons (left, right, up, down, enter) |                                                                                |                                                                                                |
|                          |                        | 1 x internal MiniPCI for WLAN                                                                                                                                                           |                                                                                |                                                                                                |
| Expansion                |                        | Mono speaker                                                                                                                                                                            |                                                                                |                                                                                                |
| Audio                    | Speaker                | 3.5 mm microphone jack                                                                                                                                                                  |                                                                                |                                                                                                |
|                          | Microphone             | 3.5 mm headset jack                                                                                                                                                                     |                                                                                |                                                                                                |
|                          |                        |                                                                                                                                                                                         |                                                                                |                                                                                                |
| LED Indicator            |                        | 1 x Power LED<br>1 x Charging LED<br>1 x HDD status LED<br>1 x WLAN ON/OFF LED                                                                                                          |                                                                                |                                                                                                |
| Wireless Module          | WLAN                   | 802.11a/b/g                                                                                                                                                                             |                                                                                | 802.11a/b/g                                                                                    |
|                          | Bluetooth              | Bluetooth V2.0/EDR module                                                                                                                                                               |                                                                                | Bluetooth V2.0/EDR module (Optional)                                                           |
|                          | WAN                    | GSM/GPRS (Optional)<br>EDGE (Optional)<br>CDMA (Optional)<br>EVDO (Optional)<br>UMTS (Optional)                                                                                         |                                                                                |                                                                                                |
| Add-on Module (Optional) |                        | SiRFIII GPS module<br>Smart card reader<br>1.3 Megapixel Autofocus CMOS camera<br>Fingerprint scanner                                                                                   |                                                                                |                                                                                                |
| Power                    | Battery                | Warm-swappable 11.1 V @ 3600 mAh Li-ion battery pack                                                                                                                                    |                                                                                |                                                                                                |
|                          | Battery Life           | 2.5 ~ 3.5 hours                                                                                                                                                                         |                                                                                |                                                                                                |
|                          | Charging Time          | 2.5 hours to 90%                                                                                                                                                                        |                                                                                |                                                                                                |
|                          | Adapter                | Auto-switching 100 ~ 240 V AC, 50/60 Hz input 19 V DC 3.16 A output                                                                                                                     |                                                                                |                                                                                                |
| Operating Temperature    |                        | -10 ~ 55° C                                                                                                                                                                             |                                                                                | 0 ~ 50° C                                                                                      |
| Storage Temperature      |                        | -40 ~ 60° C                                                                                                                                                                             |                                                                                | -40 ~ 60° C                                                                                    |
| IP Rating                |                        | IP54                                                                                                                                                                                    |                                                                                |                                                                                                |
| Drop Rating              |                        | 3 ft free drop to steel during operation                                                                                                                                                |                                                                                |                                                                                                |
| Certificate              |                        | UL/cUL, CE, FCC Class B, CB                                                                                                                                                             |                                                                                |                                                                                                |
| Dimensions (L x W x H)   |                        | 299 x 224 x 37 mm (11.77" x 8.82" x 1.46")                                                                                                                                              |                                                                                |                                                                                                |
| Weight                   |                        | 2.1 kg (4.63 lb) with standard battery                                                                                                                                                  |                                                                                |                                                                                                |
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# MARS-1031

## Rugged Handheld Terminal



### Features

- Intel XScale® Bulverde Processor (PXA270 520 MHz)
- Windows® CE.NET 5.0 OS pre-installed
- Equipped with 1D / 2D barcode scanner
- Optional WLAN 802.11 b/g and Bluetooth function
- Long battery life capability for up to eight hours operation
- Slim, palm-sized and lightweight

### Introduction

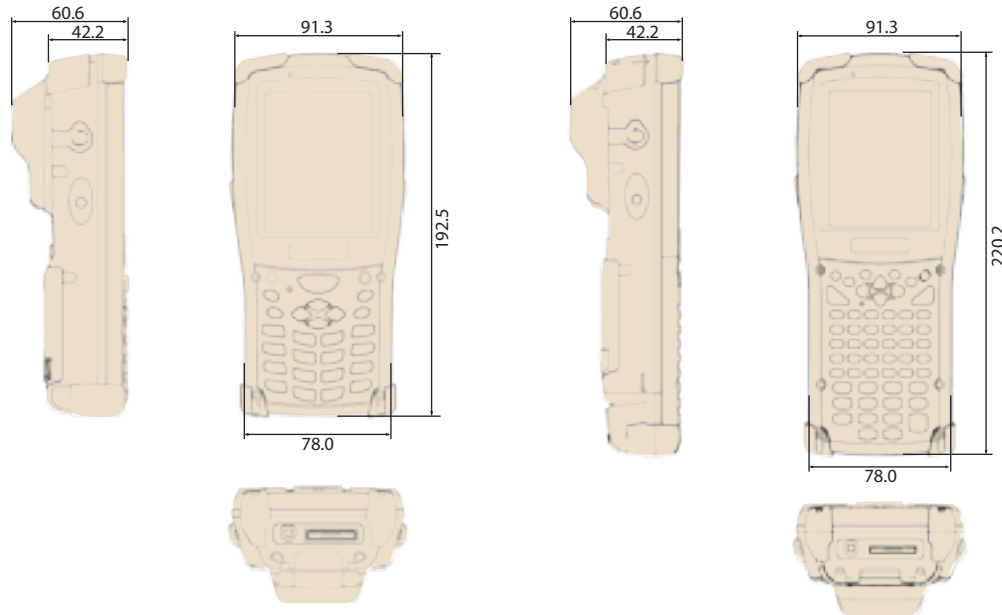
Designed as a compact handheld mobile terminal, the MARS-1031 is equipped with an Intel XScale PXA270 520 MHz processor and Windows CE.NET 5.0 operating system, for the highest performance and trusted reliability in retail, warehousing, logistic and ordering service applications. The optional 1D / 2D barcode scanner lets users collect information efficiently and communicates with back-end host data servers seamlessly through 802.11 b/g and Bluetooth. Wireless connectivity with peripheral devices such as portable printers or other devices is supported. To cope with harsh environments, MARS-1031 is rated as IP65 water and dust resistant. It is also designed for ruggedness and can withstand a 1.5 meter (5 ft) drop on concrete. The MARS-1031 is an OS-ready platform with WinCE.NET 5.0 pre-installed; WinCE.NET 5.0 is an open architecture platform that provides complete driver support, so users can develop application programs easily.

### Specifications

|                              |                         |                                                                                                                                                                                                                                                                                                                                                                                             |  |
|------------------------------|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| System Kernel                | CPU                     | Intel XScale PXA270 520 MHz Processor                                                                                                                                                                                                                                                                                                                                                       |  |
|                              | OS                      | Microsoft Windows CE.NET 5.0                                                                                                                                                                                                                                                                                                                                                                |  |
|                              | Flash Memory            | 64 MB (extendable to 128 MB)                                                                                                                                                                                                                                                                                                                                                                |  |
|                              | SDRAM                   | 128 MB (extendable to 256 MB)                                                                                                                                                                                                                                                                                                                                                               |  |
| Display and Touchscreen      | Display Type            | 3.5", 240 x 320 transreflective TFT, 256K color                                                                                                                                                                                                                                                                                                                                             |  |
|                              | Touchscreen             | Yes, integrated                                                                                                                                                                                                                                                                                                                                                                             |  |
| Optical                      | Barcode Scanner         | Optional 1D / 2D laser scanner                                                                                                                                                                                                                                                                                                                                                              |  |
|                              | Supported Symbolologies | UPC-E, UPC-A, EAN-13 / ISBN, EAN-8 / JAN-8, UPC-EAN add-ON 2/5, Interleaved 2 of 5, Industrial 2 of 5 / IATA, Plessey / MSI, Code 11, Codabar / NW7, Matrix 2 of 5, Code 39 / Code 32, Code 93, Code 128 / UCC EAN128, China Post, Code 4, GTIN, Korea Code 3 of 5, RSS, PDF417, DataMatrix, Aztec, Code 49, Postnet, QR code                                                               |  |
| Wireless Data Communications | WLAN                    | Optional, WLAN 802.11 b/g                                                                                                                                                                                                                                                                                                                                                                   |  |
|                              | Bluetooth               | Optional, Bluetooth v1.2 compatible, class 2 (10 m range)                                                                                                                                                                                                                                                                                                                                   |  |
|                              | GSM/GPRS                | Optional, Tri-Band GSM 900/1800/1900 MHz, GPRS Class 10                                                                                                                                                                                                                                                                                                                                     |  |
| Communication Port           | USB Client              | Supports USB 1.1 client via USB client cable (within standard packing)                                                                                                                                                                                                                                                                                                                      |  |
|                              | USB Host                | Supports USB 1.1 host via USB host cable (Optional)                                                                                                                                                                                                                                                                                                                                         |  |
|                              | RS-232                  | Via RS-232 serial cable (Optional)                                                                                                                                                                                                                                                                                                                                                          |  |
| Expansion Slot               | SD/MMC                  | One user accessible SD slot (Supports SD memory only)                                                                                                                                                                                                                                                                                                                                       |  |
|                              | CF/PCMCIA               | One user accessible CF Type II (default) or PCMCIA slot                                                                                                                                                                                                                                                                                                                                     |  |
| Audio                        | Speaker                 | One built-in speaker                                                                                                                                                                                                                                                                                                                                                                        |  |
|                              | Earphone                | 2.5 mm stereo earphone jack with microphone input                                                                                                                                                                                                                                                                                                                                           |  |
| Mechanical                   | Dimensions              | Length: (1031N) 192.5 mm (7.58") / (1031F) 220 mm (8.66")<br>Width: (1031N) 91.3 mm / (1031F) 78 mm (3.66" / 3.07")<br>Height: (1031N) 60.6 mm / (1031F) 42.2 mm (2.38" / 1.66")                                                                                                                                                                                                            |  |
|                              | Weight                  | MARS-1031N: 560 g with standard battery pack<br>MARS-1031F: 660 g with standard battery pack                                                                                                                                                                                                                                                                                                |  |
|                              | Keypad & Scan Button    | <div>                     - One power button<br/>                     - 4 navigation buttons<br/>                     - 4 application buttons                 </div> <div>                     - One Application hotkey<br/>                     - 3 barcode scanner buttons<br/>                     - 16 Alphanumeric Keys (1031N) or 44 Alphanumeric keys (1031F)                 </div> |  |
|                              | Indicator               | - One triple-color LED for charger indicator and alarm notification<br>- One dual-color LED for scanner indicator                                                                                                                                                                                                                                                                           |  |
| Environment                  | Operating Temp.         | 14 ~ 122° F (-10 ~ 50° C)                                                                                                                                                                                                                                                                                                                                                                   |  |
|                              | Storage Temp.           | -4 ~ 140° F (-20 ~ 60° C)                                                                                                                                                                                                                                                                                                                                                                   |  |
|                              | Relative Humidity       | 5% ~ 95% (non-condensing)                                                                                                                                                                                                                                                                                                                                                                   |  |
|                              | Water/Dust Resistance   | IP65 Certificated                                                                                                                                                                                                                                                                                                                                                                           |  |
|                              | Anti-shock              | Withstands multiple 1.5 meter drops onto concrete                                                                                                                                                                                                                                                                                                                                           |  |
| Power System                 | Vibration               | MIL STD810F                                                                                                                                                                                                                                                                                                                                                                                 |  |
|                              | Main Battery            | Li-ion 3000 mAh, 3.7V, 8 hour battery life in normal mode                                                                                                                                                                                                                                                                                                                                   |  |
|                              | Backup Battery          | Rechargeable 15 mAh, 2.4 V backup battery                                                                                                                                                                                                                                                                                                                                                   |  |
|                              | Adapter                 | 100 ~ 240 V AC 50/60 Hz Input, 5 V DC @ 2.6 A Output                                                                                                                                                                                                                                                                                                                                        |  |

## Dimensions

Unit: mm



## Ordering Information (Basic Model)

| Part Number        | Description                                                                                                                                            |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| MARS-1031N121A000E | 3.5" TFT LCD with PXA270 520 MHz, 64 MB ROM and 128 MB SDRAM, English WinCE.NET 5.0 pre-installed. 16 numeric keys, US power cord, standard battery    |
| MARS-1031F121A000E | 3.5" TFT LCD with PXA270 520 MHz, 64 MB ROM and 128 MB SDRAM, English WinCE.NET 5.0 OS pre-installed. 16 numeric keys, US power cord, standard battery |
| MARS-1031N321A000E | 3.5" TFT LCD with PXA270 520 MHz, 64 MB ROM and 128 MB SDRAM, English WinCE.NET 5.0 OS pre-installed. 16 numeric keys, EU power cord, standard battery |
| MARS-1031F321A000E | 3.5" TFT LCD with PXA270 520 MHz, 64 MB ROM and 128 MB SDRAM, English WinCE.NET 5.0 OS pre-installed. Full 44 keys, EU power cord, standard battery    |

## Optional Modules

| Part Number                   | Description                                                                                    |
|-------------------------------|------------------------------------------------------------------------------------------------|
| WLAN 802.11b/g module         | None, or built-in with internal antenna                                                        |
| Bluetooth v1.2 class 2 module | None, or built-in with internal antenna                                                        |
| GSM/GPRS module               | Tri-band GSM/GPRS module (CF or PCMCIA slot will be replaced if GSM/GPRS module is installed.) |
| Barcode engine                | None, 1D scanner, or 2D scanner                                                                |

## Accessories

| Part Number       | Description                                                |
|-------------------|------------------------------------------------------------|
| MARS-1030A-SDE    | MARS-1030 Single dock                                      |
| MARS-1030A-PISE   | MARS-1030 Pistol                                           |
| MARS-1030A-SBATE  | MARS-1030 Standard capacity battery pack (3.7 V, 3000 mAh) |
| MARS-1030A-HBATE  | MARS-1030 High capacity battery pack (3.7 V, 4000 mAh)     |
| MARS-1030A-HBATCE | MARS-1030 high capacity battery cover                      |
| MARS-1030A-4SCE   | MARS-1030 4 Slot battery charger                           |
| MARS-1030A-HSTE   | MARS-1030 Holster                                          |
| MARS-1030A-CCAE   | MARS-1030 Car charging adapter                             |
| MARS-1030A-SERCE  | MARS-1030 RS-232 Serial cable for terminal                 |
| MARS-1030A-USBHCE | MARS-1030 USB Host cable for terminal                      |
| MARS-1030A-RFIDCE | MARS-1030 PCMCIA card cover                                |

## Packing List

|                                         |
|-----------------------------------------|
| MARS-1031 Terminal                      |
| Stylus                                  |
| USB Client Cable for Terminal           |
| Earphone/ Microphone Set                |
| Standard AC Adapter 5 V DC / 2.6 A      |
| AC Power Cord                           |
| Standard Battery Pack (3.7 V, 3000 mAh) |
| CF Support Guide                        |
| Quick Guide                             |

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# MARS-3100R

## 10.4" Fully-rugged Industrial Tablet PC



### Features

- Rugged design protects system from shock/vibration damage
- IP54-rated, fully-sealed chassis for water/dust resistance
- Powerful communication capabilities with optional built-in WLAN, Bluetooth and GSM/GPRS/EDGE modules
- Supports Windows® XP for easy development
- Wide -10 to 55° C operation for extreme environments, like ironworks or icehouses

### Introduction

The Advantech MARS-3100R series is a 10.4" Industrial Tablet PC for applications such as manufacturing, warehousing, factory maintenance, field service, transportation, and police, fire, or other emergency services. The rugged design of the MARS-3100R resists shock and vibration to safeguard data while on the move. The whole MARS-3100 chassis is fully sealed per IP54 ratings to prevent water and dust damage in outdoor applications. In addition, the optional built-in WLAN, Bluetooth and GSM/GPRS/EDGE modules facilitate data transfer and communications.

### Powerful System

The MARS-3100R uses an Intel® Core™ Duo ULV U2500 1.2 GHz processor, making it the most powerful model of the MARS-3100 series. This enables the MARS-3100R to run demanding applications like live 3D CAD/CAE demonstrations and other professional programs.

### Fully-rugged Design

The wide -10 to 55° C operating temperature, sunlight readable screen, and adjustable brightness features of the MARS-3100R make it a fully-ruggedized tablet PC that tolerates extreme environments while showing a clear picture.

### Wireless Communication

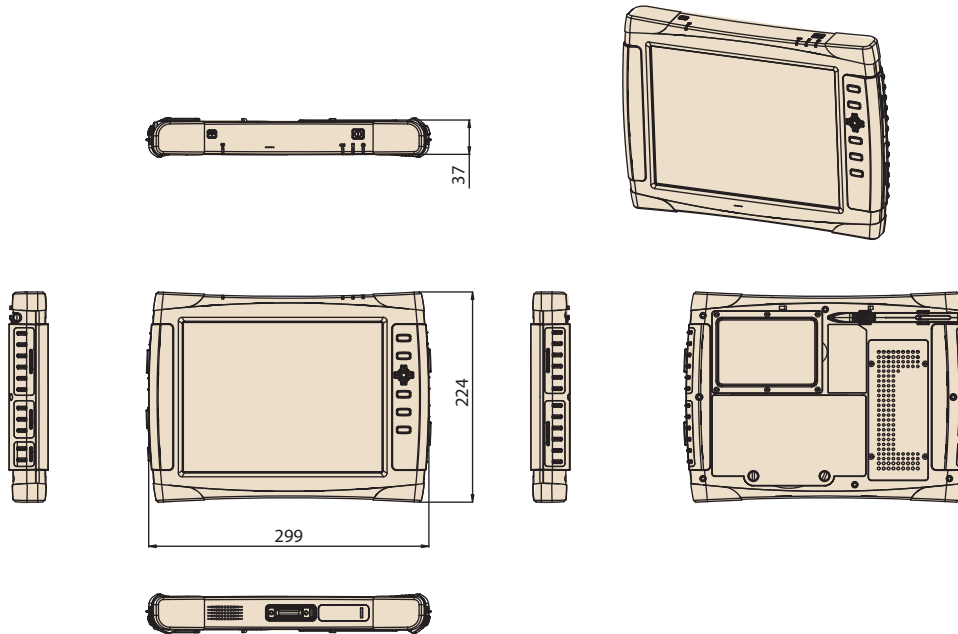
For people on the move, the MARS-3100R provides optional built-in GSM/GPRS/EDGE WAN, 802.11a/b/g LAN and Bluetooth PAN connectivity for complete wireless communication capabilities. All options come with a built-in internal antenna, so users can easily access remote databases or exchange information with others no matter where they are.

### Specifications

|                        |               |                                                                                                                                         |                                                           |
|------------------------|---------------|-----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Processor System       | Processor     | Intel Core Duo Ultra Low Voltage U2500 @ 1.2 GHz                                                                                        |                                                           |
|                        | Chipset       | Intel 945GME                                                                                                                            |                                                           |
|                        | Graphic       | Intel 945GME with 64-224 MB shared memory                                                                                               |                                                           |
|                        | Memory        | - 1GB DDR2 533 MHz memory module in one 200-pin SODIMM slot                                                                             |                                                           |
|                        | Storage       | - Removable 2.5" 40 GB shock mounted HDD<br>- Optional CF slot for storage                                                              |                                                           |
|                        | OS            | Windows XP                                                                                                                              |                                                           |
| Display                | Panel         | - 10.4" XGA TFT LCD<br>- Optional Sunlight Readable solution<br>- 8-level brightness                                                    |                                                           |
| Communication          | Wireless      | Wireless LAN 802.11a/b/g (Default) (only Band1 and Band4)                                                                               |                                                           |
|                        | WAN           | GSM/GPRS/EDGE (Optional)                                                                                                                |                                                           |
|                        | Bluetooth     | Bluetooth V2.0/EDR (Default)                                                                                                            |                                                           |
| User Control Interface |               | Dual panel input, Digitizer and resistive touchscreen<br>5-way navigation key<br>3 x application hotkeys (programmable)<br>Logon button | Screen rotation key<br>Power button<br>WLAN ON/OFF button |
| I/O Interface          | RS-232        | 1 x 9-pin D-sub RS-232                                                                                                                  |                                                           |
|                        | USB           | 2 x USB 2.0                                                                                                                             |                                                           |
|                        | LAN           | 1 x 10/100Base-T, RJ-45                                                                                                                 |                                                           |
|                        | VGA out       | 1 x 15-pin D-sub VGA                                                                                                                    |                                                           |
|                        | Audio         | 1 x Microphone jack<br>1 x Headset jack                                                                                                 |                                                           |
| Power                  | Adapter       | Auto-switching 100 ~ 240 V, 50 ~ 60 Hz supplying 19 V <sub>DC</sub> @ 3.16 A                                                            |                                                           |
|                        | Battery       | Warm-swappable 11.1 V @ 3600 mAh Li-ion battery pack                                                                                    |                                                           |
|                        | Battery Life  | 2.5 ~ 3.5 hours                                                                                                                         |                                                           |
|                        | Charging Time | 2.5 hours to 90%                                                                                                                        |                                                           |
| Mechanical             | Dimensions    | 229 x 224 x 37 mm (9.02" x 8.82" x 1.46")                                                                                               |                                                           |
|                        | Weight        | 2.1 kg (4.63 lb)                                                                                                                        |                                                           |

## Dimensions

Unit: mm



## Specifications

|                              |                       |                                                                                                                                                                                                             |                                                                             |
|------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Environment                  | Operation Humidity    | 0% ~ 95% non-condensing MIL-STD810F Method 507.4                                                                                                                                                            |                                                                             |
|                              | Storage Humidity      | 0% ~ 95% non-condensing MIL-STD810F Method 507.4                                                                                                                                                            |                                                                             |
|                              | Operation Temperature | -10 ~ 55° C MIL-STD 810F Methods 501.4 and 502.4 Procedure II<br>Cold boot (battery mode): 0° C @ 50% charge<br>Cold boot (adaptor mode): Any                                                               |                                                                             |
|                              | Storage Temperature   | -40 ~ 60° C MIL-STD 810F Methods 501.4 and 502.4 Procedure I                                                                                                                                                |                                                                             |
|                              | Thermal Shock         | 1.5 ~ 5° C / minute over -10 ~ 55° C MIL-STD810F-503.4                                                                                                                                                      |                                                                             |
|                              | Water/Dust Resistance | IP54 equivalent                                                                                                                                                                                             |                                                                             |
|                              | Drop                  | 3 ft free drop to steel during operation. MIL-STD-810F, Method 516.5 Procedure IV                                                                                                                           |                                                                             |
|                              | Vibration             | Operation: MIL-STD 810F Methods 514.5C-1 for HDD and MIL-STD 810F Methods 514.5C-3 for CF<br>Non-Operation: 0.04g <sup>2</sup> /Hz, 20Hz ~ 1000Hz, -6dB/octave 1000Hz-2000Hz, MIL-STD-810F method 514.5C-17 |                                                                             |
|                              | Mechanical Shock      | Operating: 20g, 11ms, Terminal sawtooth<br>Non-operating: 40g, 11ms, Terminal sawtooth, MIL-STD-810F method 516.5                                                                                           |                                                                             |
|                              | Low Pressure          | 15,000 ft. In accordance with MIL-STD810F method 500.4 Procedure I                                                                                                                                          |                                                                             |
| Certifications and Standards | Certifications        | - FCC, CE, UL/cUL, CBC                                                                                                                                                                                      |                                                                             |
|                              | EMC                   | -EN55022 Class B<br>-EN55011 Class A                                                                                                                                                                        | -FCC Part15 Class B<br>-DOC Class B                                         |
|                              | EMS                   | - Contact: 4Kv/Air: 8Kv, EN55024                                                                                                                                                                            |                                                                             |
|                              | Safety                | - UL/cUL, UL60950-1<br>- CB, IEC/EN60950-1                                                                                                                                                                  |                                                                             |
|                              | RF                    | - CE-R&TTE EN301489-1/-17 and EN 300328<br>- CE SAR test EN50385<br>- CE CAB report                                                                                                                         | - CE 28 country notify<br>- FCC Part 15c and 15e<br>- FCC SAR test OET 65.C |
|                              |                       |                                                                                                                                                                                                             |                                                                             |

## Ordering Information

| Part No.           | Description                                                                                                           |
|--------------------|-----------------------------------------------------------------------------------------------------------------------|
| MARS-3100R-175300E | MARS-3100R basic model, 40 GB HDD<br>1GB DDR2, 802.11 a/b/g, BT, with XP Pro (OEM)                                    |
| MARS-3100R-175800E | MARS-3100R basic model, 40 GB HDD<br>1GB DDR2, 802.11 a/b/g, BT, GPRS, with XP Pro (OEM)                              |
| MARS-3100R-175312E | MARS-3100R basic model, 40 GB HDD<br>1GB DDR2, 802.11 a/b/g, BT, Fingerprint scanner, 1.3M AF CMOS, with XP Pro (OEM) |
| MARS-3100R-A75300E | MARS-3100R with Sunlight-readable solution, 40 GB HDD, 1GB DDR2, 802.11 a/b/g, BT, with XP Pro (OEM)                  |

|                                 |    |
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| Computer On Modules             | 1  |
| Embedded Single Board Computers | 2  |
| Compact Embedded Computers      | 3  |
| Pre-configured Systems          | 4  |
| Industrial Motherboards         | 5  |
| Slot Single Board Computers     | 6  |
| Industrial Computer Chassis     | 7  |
| Industrial Computer Peripherals | 8  |
| Panel PCs                       | 9  |
| Display Solutions               | 10 |
| Digital Video Solutions         | 11 |
| Vehicle Mounted Computers       | 12 |
| Portable Computers              | 13 |
| M2M Modules                     | 14 |
| Embedded Software Services      | 15 |

# MARS-3100S

## 10.4" Semi-rugged Industrial Tablet PC



### Features

- Rugged design protects system from shock/vibration damage
- IP54-rated, fully-sealed chassis for water/dust resistance
- Powerful communication capabilities with optional built-in WLAN, Bluetooth and GSM/GPRS/EDGE modules
- Flexible I/O design for customization requirements
- Supports Windows® XP Embedded for easy development
- Fanless design

### Introduction

The Advantech MARS-3100S series is a 10.4" Semi-rugged Industrial Tablet PC for applications such as manufacturing, warehousing, factory maintenance, field service, transportation, as well as police, fire, or other emergency services. The rugged design of the MARS-3100S resists shock and vibration to safeguard data while on the move. The whole MARS-3100S chassis is fully sealed to IP54 ratings to prevent water and dust damage in outdoor applications. In addition, the optional built-in WLAN, Bluetooth and GSM/GPRS/EDGE modules facilitate data transfer and communication.

### Low Power Consumption

The MARS-3100S uses an AMD LX800 500 MHz processor, making it the most power-efficient model of the MARS-3100 series. This enables the MARS-3100S to be fanless and consume less than 15 W of power.

### Cost Competition

The fanless and power-efficient design of the MARS-3100S makes it ideal for light-duty industrial applications. The MARS-3100S is a semi-rugged tablet PC that has the same strong chassis as the MARS-3100R, at a lower cost.

### Wireless Communication

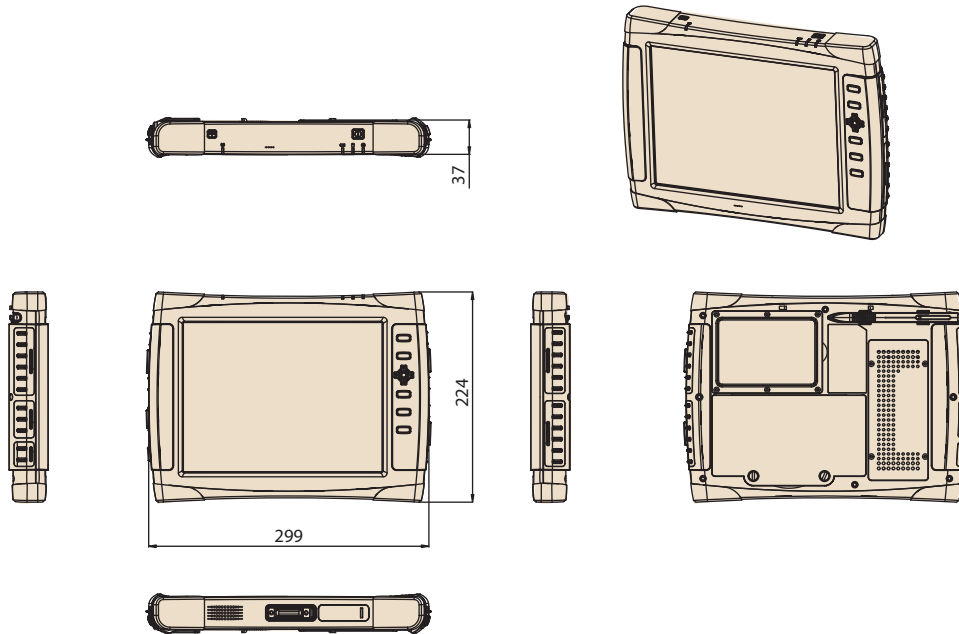
For people on the move, MARS-3100S provides optional built-in GSM/GPRS/EDGE WAN, 802.11a/b/g LAN and Bluetooth PAN connectivity for complete wireless communication capabilities. All options come with a built-in internal antenna, so users can easily access remote databases or exchange information with others no matter where they are.

### Specifications

|                        |               |                                                                                                          |                                                           |
|------------------------|---------------|----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|
| Processor System       | Processor     | AMD LX800 500 MHz                                                                                        |                                                           |
|                        | Chipset       | AMD CS5536                                                                                               |                                                           |
|                        | Graphic       | AMD CS5536 with shared memory                                                                            |                                                           |
|                        | Memory        | - 512 MB DDR 400 MHz memory module in one 200-pin SODIMM slot                                            |                                                           |
|                        | Storage       | - Default 4 GB CF<br>- Optional 2.5" shock mounted HDD                                                   |                                                           |
| Graphics               | OS            | Supports Windows XP Embedded                                                                             |                                                           |
|                        | Panel         | 10.4" SVGA TFT LCD                                                                                       |                                                           |
| Communication          | Wireless      | Wireless LAN 802.11a/b/g (Default) (only Band 1 and Band 4)                                              |                                                           |
|                        | WAN           | GSM/GPRS/EDGE (Optional)                                                                                 |                                                           |
|                        | Bluetooth     | Bluetooth V2.0/EDR (Optional)                                                                            |                                                           |
| User Control Interface |               | Resistive touch screen<br>5-way navigation key<br>3 x application hotkeys (programmable)<br>Logon button | Screen rotation key<br>Power button<br>WLAN ON/OFF button |
| I/O Interface          | RS-232        | 1 x 9-pin D-sub RS-232                                                                                   |                                                           |
|                        | USB           | 1 x USB 2.0                                                                                              |                                                           |
|                        | LAN           | 1 x 10/100Base-T, RJ-45                                                                                  |                                                           |
|                        | VGA Out       | 1 x 15-pin D-sub VGA output                                                                              |                                                           |
|                        | Audio         | 1 x Microphone jack<br>1 x Headset jack                                                                  |                                                           |
| Power                  | Adapter       | Auto-switching 100 ~ 240 V, 50 ~ 60 Hz supplying 19 V <sub>DC</sub> @ 3.16 A                             |                                                           |
|                        | Battery       | Warm-swappable 11.1 V @ 3600 mAh Li-ion battery pack                                                     |                                                           |
|                        | Battery Life  | 3.5~4 hours                                                                                              |                                                           |
|                        | Charging Time | 2.5 hours to 90%                                                                                         |                                                           |

## Dimensions

Unit: mm



## Specifications

|                              |                       |                                                                                                                                                                                                             |                                                                             |
|------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Mechanical                   | Dimensions            | 229 x 224 x 37 mm (9.02" x 8.82" x 1.46")                                                                                                                                                                   |                                                                             |
|                              | Weight                | 2.1 kg (4.63 lb)                                                                                                                                                                                            |                                                                             |
| Environment                  | Operation Humidity    | 0% ~ 95% non-condensing MIL-STD810F Method 507.4                                                                                                                                                            |                                                                             |
|                              | Storage Humidity      | 0% ~ 95% non-condensing MIL-STD810F Method 507.4                                                                                                                                                            |                                                                             |
|                              | Operation Temperature | 0 ~ 50° C MIL-STD 810F Methods 501.4 and 502.4 Procedure II                                                                                                                                                 |                                                                             |
|                              | Storage Temperature   | -40 ~ 60° C MIL-STD 810F Methods 501.4 and 502.4 Procedure I                                                                                                                                                |                                                                             |
|                              | Thermal Shock         | 1.5 ~ 5° C / minute over 0 ~ 50° C MIL-STD810F-503.4                                                                                                                                                        |                                                                             |
|                              | Water/Dust Resistance | IP54 equivalent                                                                                                                                                                                             |                                                                             |
|                              | Drop                  | 3 ft free drop to steel during operation. MIL-STD-810F, Method 516.5 Procedure IV                                                                                                                           |                                                                             |
|                              | Vibration             | Operation: MIL-STD 810F Methods 514.5C-1 for HDD and MIL-STD 810F Methods 514.5C-3 for CF<br>Non-Operation: 0.04g <sup>2</sup> /Hz, 20Hz ~ 1000Hz, -6dB/octave 1000Hz-2000Hz, MIL-STD-810F method 514.5C-17 |                                                                             |
|                              | Mechanical Shock      | Operating: 20g, 11ms, Terminal sawtooth, Non-operating: 40g, 11ms, Terminal sawtooth, MIL-STD-810F method 516.5                                                                                             |                                                                             |
|                              | Low Pressure          | 15,000 ft. In accordance with MIL-STD810F method 500.4 Procedure I                                                                                                                                          |                                                                             |
| Certifications and Standards | Certifications        | FCC, CE, UL/cUL, CB                                                                                                                                                                                         |                                                                             |
|                              | EMC                   | - EN55022 Class B<br>- EN55011 Class A                                                                                                                                                                      | - FCC Part15 Class B<br>- DOC Class B                                       |
|                              | EMS                   | - Contact: 4Kv/ Air: 8Kv, EN55024                                                                                                                                                                           |                                                                             |
|                              | Safety                | - UL/cUL, UL60950-1<br>- CB, IEC/EN60950-1                                                                                                                                                                  |                                                                             |
|                              | RF                    | - CE-R&TTE EN301489-1/-17 and EN 300328                                                                                                                                                                     |                                                                             |
|                              |                       | - CE SAR test EN50385<br>- CE CAB report                                                                                                                                                                    | - CE 28 country notify<br>- FCC Part 15c and 15e<br>- FCC SAR test OET 65.C |

## Ordering Information

| Part No.           | Description                                                                   |
|--------------------|-------------------------------------------------------------------------------|
| MARS-3100S-1B1100E | MARS-3100S basic model, 4GB CF, 512MB DDR, 802.11 a/b/g, with XPE (Eng.)      |
| MARS-3100S-1B1600E | MARS-3100S basic model, 4GB CF, 512MB DDR, 802.11 a/b/g, GPRS with XPE (Eng.) |
| MARS-3100S-1B1700E | MARS-3100S basic model, 4GB CF, 512MB DDR, 802.11 a/b/g, EDGE with XPE (Eng.) |

|                                 |    |
|---------------------------------|----|
| Computer On Modules             | 1  |
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| Panel PCs                       | 9  |
| Display Solutions               | 10 |
| Digital Video Solutions         | 11 |
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| Portable Computers              | 13 |
| M2M Modules                     | 14 |
| Embedded Software Services      | 15 |

# MARS-3100-BASE

## Desktop Docking Base



### Features

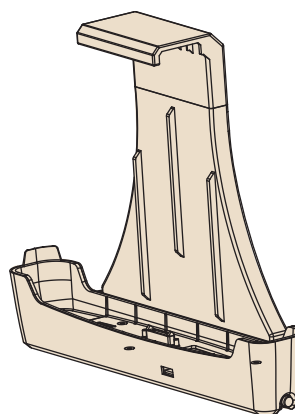
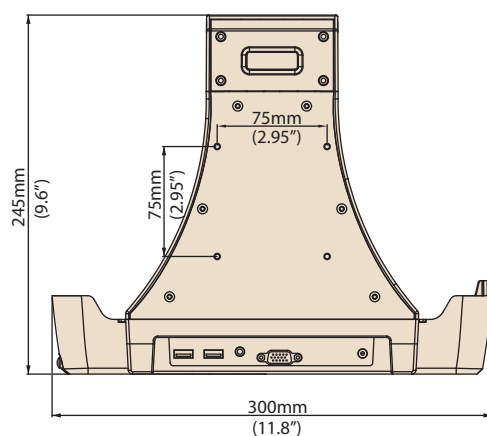
- Perfect for indoor/office usage
- Extended I/O ports: USB, VGA, and Audio out
- Mounted using any VESA compatible mounting kit
- Tightly held tablet provides stable signal during vibration/ shock
- Weighted metal base lets the tablet operate stably at any angle

### Specification

|                 |                                                      |
|-----------------|------------------------------------------------------|
| I/O Spec        | USB 2.0 x 1 on the front and USB 2.0 x 2 on the back |
|                 | VGA out x 1 on the back                              |
|                 | Audio out x 1 on the back                            |
|                 | DC-in x 1 on the back                                |
| VESA mount spec | 75 mm x 75 mm standard VESA mount                    |

### Dimensions (MARS-3100-CRADLE)

Unit: mm (inch)



### Packing Lists (MARS-3100-BASE)

|                                                   |
|---------------------------------------------------|
| MARS-3100-CRADLE                                  |
| RAM Zinc mount base                               |
| RAM Double socket arm mount with 75 mm VESA PLATE |

### Ordering Information

| Part Number       | Description                      |
|-------------------|----------------------------------|
| MARS-3100-BASE    | MARS-3100 desktop docking base   |
| MARS-3100-CRADLE  | MARS-3100 docking cradle         |
| MARS-3100-CHARGER | MARS-3100 3-in-1 battery charger |
| 1990003290        | MARS-3100 stylus                 |
| 9680004553        | MARS-3100 Digitizer stylus       |
| 9680004425        | MARS-3100 standard battery pack  |
| 9689000450        | MARS-3100 19V/60W AC adapter     |
| 1700001524        | MARS-3100 US power cord          |

# Memo

Computer On Modules **1**

Embedded Single Board Computers **2**

Compact Embedded Computers **3**

Pre-configured Systems **4**

Industrial Motherboards **5**

Slot Single Board Computers **6**

Industrial Computer Chassis **7**

Industrial Computer Peripherals **8**

Panel PCs **9**

Display Solutions **10**

Digital Video Solutions **11**

Vehicle Mounted Computers **12**

Portable Computers **13**

M2M Modules **14**

Embedded Software Services **15**