

Portable Computing Platforms



Selection Guide

Specifications		MARS-2030 Numeric Keypad Version	MARS-2030 Full Keypad Version	MARS-1030 Numeric Keypad Version	MARS-1030 Full Keypad Version
Processor		Intel PXA270 520 MHz		Intel Xscale PXA255 400 MHz	
OS		Supports Windows® CE.NET 5.0		Supports Windows® CE.NET 5.0 Professional	
Memory		128 MB SDRAM		128 MB SDRAM	
Storage		256 MB NAND FLASH		64 MB NAND FLASH	
Display	Size/Type	3.5" transfective TFT LCD		3.5" transfective TFT LCD	
	Max. Resolution	240 x 320		240 x 320	
	Max. Colors	256 K		256 K	
	Viewing Angle (degrees)	50/50		50/50	
	Touchscreen	4-wire resistance type		4-wire resistance type	
VGA	Chipset	PXA270 Video Interface		nVidia 2D graphic accelerator	
	RAM	-		Internal 256 Kbs SRAM	
Brightness Control		Software control or hotkey control		Software control or hotkey control	
I/O Port		<ul style="list-style-type: none"> DC in jack LIF connector (through cable to supports: RS-232, USB v1.1 Host/client) 		<ul style="list-style-type: none"> DC in jack LIF connector (through cable to supports: RS-232, USB v1.1 Host/client) 	
Keypad & Buttons	Keypad	12 Numeric keypad	26 Alpha-Numeric keypad	16 Alpha-Numeric keypad	44 Alpha-Numeric keypad
	Buttons	<ul style="list-style-type: none"> Power button Three barcode scanner buttons Four application buttons Three Navigation Buttons (UP, DN, enter) Five Control Buttons (Fn, Tab, Caps, Alpha, Bs) One Reset button One push to talk button (Recording) 	<ul style="list-style-type: none"> Power button Three barcode scanner buttons Four application buttons Three Navigation Buttons (UP, DN, enter) Six Control Buttons (Fn, Tab, Caps, Alpha, Bs, Space) One Reset button One push to talk button (Recording) 	<ul style="list-style-type: none"> Power button Three barcode scanner buttons Four application buttons Application hot key (programmable) Four buttons for navigation (left, right, up, down) 	
Expansion		1 x SIM slot for WAN module (Optional) 1 x Serial connector for RFID or GPS module 1 x SD/MMC slot (Only support SD memory)		1 x CF II slot or PCMCIA slot 1 x SD/MMC slot	
Audio	Speaker	1 x mono speaker		1 x mono speaker	
	Microphone	1 x internal Microphone		-	
	Earphone	2.5mm stereo earphone jack with microphone input		2.5mm stereo earphone jack with microphone input	
LED indicator		1 x bi-color LED for Power Charge indicator 1 x bi-color LED for Barcode Scanner 1 x triple-color LED for Alarm, WiFi, BT, GPRS		1 x triple-color LED for charger indicator and alarm notification 1 x bi-color LED for scanner indicator	
Wireless module	WLAN	802.11b/g (Optional)		802.11b (Optional)	
	BlueTooth	Bluetooth v2.0 + EDR		Bluetooth v1.2 (Optional)	
	IrDA	IrDA 1.2		-	
	WAN	Quad-band GPRS/EDGE (Optional)		Tri-band GSM/GPRS (Optional)	
Add-on Module		1D Barcode scanner (Optional)		1D Barcode scanner (Optional) 2D Barcode scanner (Optional)	
Power	Battery	Li-Ion battery pack 3.7 V, 2200 mAh / Li-Ion battery pack 3.7 V, 4000 mAh		Li-Ion battery pack 3.7 V, 3000 mAh	
	Battery life	Approx 6 hours / 12 hours		8 hours	
	Charging time	4 hours / 4 hours		4 hours	
	Adapter	Auto-switching 100 ~ 240 V AC, 50/60 MHz Input Supplying 5 V DC 2.6 A Output		Auto-switching 100 ~ 240 V AC, 50/60 MHz Input Supplying 5 V DC 2.6 A Output	
Operating Temperature		-10 ~ 50° C		-10 ~ 50° C	
Storage Temperature		-20 ~ 60° C		-20 ~ 70° C	
IP Rating		IP65		IP54	
Drop		5ft. Free drop to concrete		5ft. Free drop to concrete	
Certificate		cUL, LVD, LCIE/CB, CE (BT+WLAN+GPRS), FCC (BT+WLAN)		UL/cUL, CE, FCC Class B, CCC	
Dimensions (H x W x D)		155 x 82 x 31(33) mm		192.5 x 91.3/78 x 60.6/42.2 mm	
Weight		400 g with standard battery		560 g with standard battery	
Reference Page		-		-	



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, 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	
	Max. Resolution	XGA, 1024 x 768	SVGA, 800 x 600
	Max. Colors	256 K	
	Viewing Angle (degrees)	50/90	
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 Two USB v2.0 15-pin D-Sub for VGA out RJ-45 jack for 10/100 Ethernet DC in jack	RS-232 USB v2.0 15-pin D-Sub for VGA out RJ-45 jack for 10/100 Ethernet DC in jack
Keypad & Buttons	Buttons	Power button SAS button Rotation key (for display) WLAN ON/OFF button Three application hotkeys (programmable) 5-way navigation buttons (left, right, up, down, enter)	
		Expansion 1 x internal MiniPCI for WLAN	
Audio	Speaker	Mono speaker	
	Microphone	3.5 mm microphone jack	
	Earphone	3.5 mm headset jack	
LED Indicator		1 x Power LED 1 x Charging LED 1 x HDD status LED 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) EDGE (Optional) HSUPA (Optional) SiRFIII GPS module 1.3 Megapixel Autofocus CMOS camera Fingerprint scanner	
Add-on Module (Optional)		SiRFIII GPS module 1.3 Megapixel Autofocus CMOS camera 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-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



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

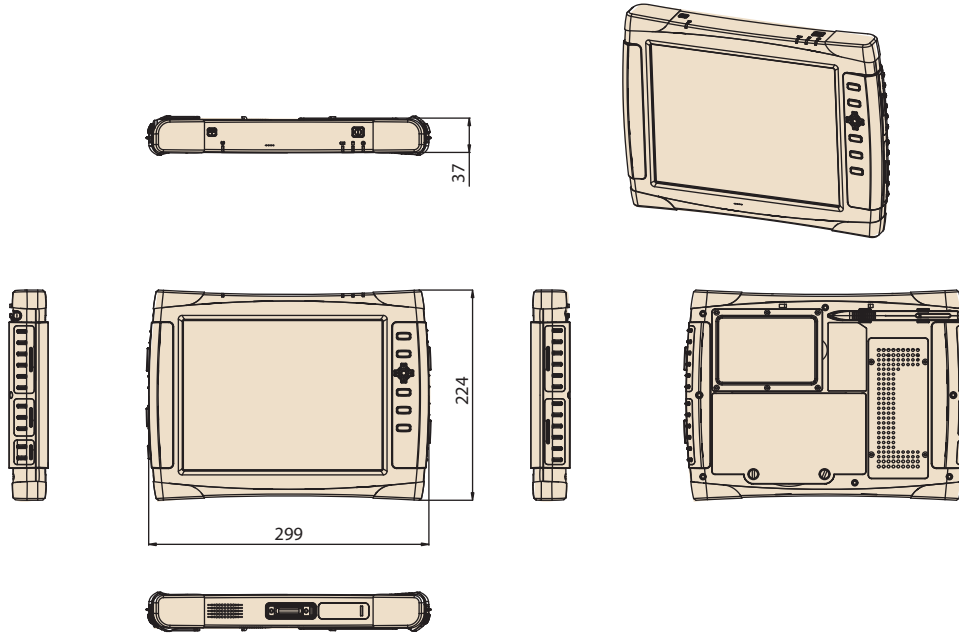
For people on the move, the MARS-3100R provides optional built-in GSM/GPRS/EDGE WAN, 802.11a/b/g LAN and Bluetooth PAN connectivity for complete wireless communication capabilities. All options come with a built-in internal antenna, so users can easily access remote databases or exchange information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

Specifications

Processor System	Processor	Intel Core Duo Ultra Low Voltage U2500 @ 1.2 GHz	
	Chipset	Intel 945GME	
	Graphics	Intel 945GME with 64-224 MB shared memory	
	Memory	- 1GB DDR2 memory module in one 200-pin SODIMM slot	
	Storage	- Removable 2.5" 40 GB shock mounted HDD - Optional CF slot for storage	
	OS	Windows XP	
Display	Panel	- 10.4" XGA TFT LCD	
		- Optional Sunlight Readable solution	
		- 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 5-way navigation key 3 x application hotkeys (programmable) SAS button	Screen rotation key Power button 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 10/100 Mbps, RJ-45	
	VGA out	1 x 15-pin D-sub VGA	
	Audio	1 x Microphone jack 1 x Headset jack	
Power	Adapter	Auto-switching 100 ~ 240 V, 50 ~ 60 Hz supplying 19 V _{DC} @ 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	299 x 224 x 37 mm (11.77" x 8.82" x 1.46")	
	Weight	2.1 kg (4.63 lb)	

Dimensions

Unit: mm



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Specifications

Environment	Operating Humidity	0% ~ 95% non-condensing MIL-STD810F Method 507.4	
	Storage Humidity	0% ~ 95% non-condensing MIL-STD810F Method 507.4	
	Operating Temperature	-10 ~ 55° C MIL-STD 810F Methods 501.4 and 502.4 Procedure II Cold boot (battery mode): 0° C @ 50% charge (0 ~ 40° C for battery charging) Cold boot (adaptor mode): Any	
	Storage Temperature	-40 ~ 60° C MIL-STD 810F Methods 501.4 and 502.4 Procedure I	
	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 Non-Operation: 0.04g ² /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	
Certifications and Standards	Low Pressure	15,000 ft. In accordance with MIL-STD810F method 500.4 Procedure I	
	Certifications	- FCC, CE, UL/cUL, CCC	
	EMC	-EN55022 Class B -EN55011 Class A	-FCC Part15 Class B -DOC Class B
	EMS	- Contact: 4Kv/Air: 8Kv, EN55024	
	Safety	- UL/cUL, UL60950-1 - CB, IEC/EN60950-1	
	RF	- CE-R&TTE EN301489-1/-17 and EN 300328 - CE SAR test EN50385 - CE CAB report	- CE 28 country notify - FCC Part 15c and 15e - FCC SAR test OET 65.C

Ordering Information

Part No.	Description
MARS-3100R-175300E	MARS-3100R basic model, 40 GB HDD 1 GB DDR2, 802.11 a/b/g, BT, with XP Pro (OEM)
MARS-3100R-175800E	MARS-3100R basic model, 40 GB HDD 1 GB DDR2, 802.11 a/b/g, BT, GPRS, with XP Pro (OEM)
MARS-3100R-175312E	MARS-3100R basic model, 40 GB HDD 1 GB 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)

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 semi-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

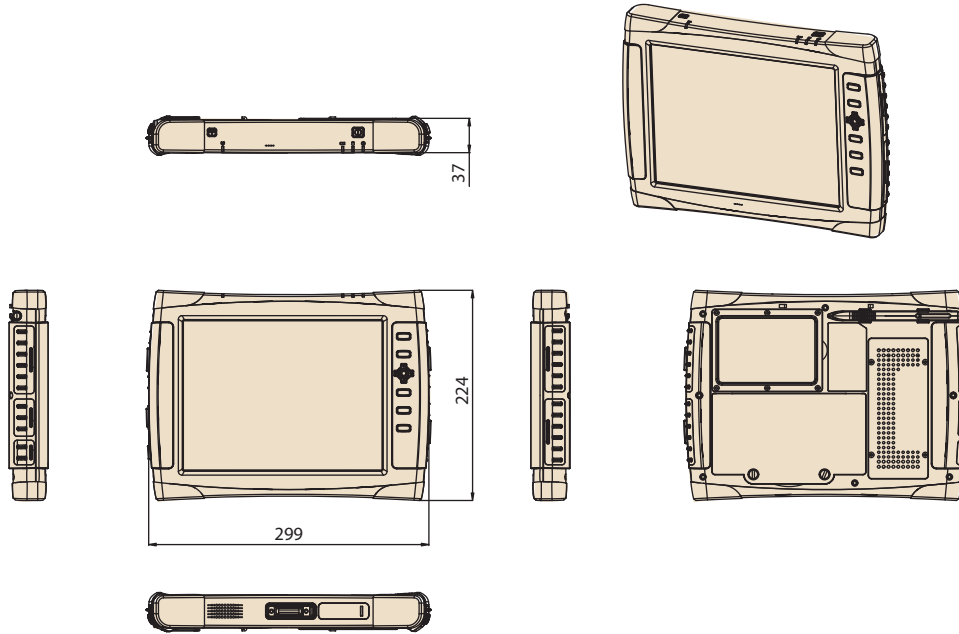
For people on the move, MARS-3100S provides optional built-in GSM/GPRS/EDGE WAN, 802.11a/b/g LAN and Bluetooth PAN connectivity for complete wireless communication capabilities. All options come with a built-in internal antenna, so users can easily access remote databases or exchange information with 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 - 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 5-way navigation key 3 x application hotkeys (programmable) SAS button	Screen rotation key Power button 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 10/100 Mbps, RJ-45	
	VGA Out	1 x 15-pin D-sub VGA output	
	Audio	1 x Microphone jack 1 x Headset jack	
Power	Adapter	Auto-switching 100 ~ 240 V, 50 ~ 60 Hz supplying 19 V _{DC} @ 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



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Specifications

Mechanical	Dimensions	299 x 224 x 37 mm (11.77" x 8.82" x 1.46")	
	Weight	2.1 kg (4.63 lb)	
Environment	Operating Humidity	0% ~ 95% non-condensing MIL-STD810F Method 507.4	
	Storage Humidity	0% ~ 95% non-condensing MIL-STD810F Method 507.4	
	Operating Temperature	0 ~ 50° C MIL-STD 810F Methods 501.4 and 502.4 Procedure II (0 ~ 40° C for better charging)	
	Storage Temperature	-40 ~ 60° C MIL-STD 810F Methods 501.4 and 502.4 Procedure I	
	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 Non-Operation: 0.04g ² /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 - EN55011 Class A	- FCC Part15 Class B - DOC Class B
	EMS	- Contact: 4Kv/ Air: 8Kv, EN55024	
	Safety	- UL/cUL, UL60950-1 - CB, IEC/EN60950-1	
	RF	- CE-R&TTE EN301489-1/-17 and EN 300328 - CE SAR test EN50385 - CE CAB report	- CE 28 country notify - FCC Part 15c and 15e - FCC SAR test OET 65.C

Ordering Information

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

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