



# Embedded & Industrial PCs



## Products and Configurations



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## GENERAL

With regard to this document, ASEM S.p.A. retains the right to remove the products and modify any characteristic, configuration or content without advance notice

Furthermore, ASEM S.p.A. is not responsible for any inaccuracy and/or misprint for this document

## CONTACT INFORMATION

### EXPORT DEPARTMENT

ASEM S.p.A. - Via Buia, 4 - 33011 - ARTEGNA (UD)  
Phone: +39/0432/967211  
Fax: +39/0432/977226  
E-mail: c.lostuzzo@asem.it

### REPAIR - SPARE PARTS - RETURNED PRODUCT ACCEPTANCE - TECHNICAL SUPPORT

ASEM S.p.A. - Via Buia, 4 - 33011 - ARTEGNA (UD)  
Phone Customer Assistance: +39/0432/967435 (from Mon to Fri:  
9:00am÷12:30pm / 2:30pm÷5:30pm)  
Fax Customer Assistance: +39/0432/967480  
E-mail Customer Assistance: suptec@asem.it

## STANDARD WARRANTY CONDITIONS

ASEM S.p.A. sales all the products listed here with a 12-month standard warranty coverage, plus 1 month exemption, starting from products pick-up date from warehouse. Warranty extension is foreseen. Warranty management takes place at ASEM headquarters, Artegna (UD - ITALY)

## RETURN OF GOODS FOR REPAIR

For product repair, the Return Number (RMA) must be requested in advance to ASEM's Customer Assistance  
Transport document must be filled as follows:

### TRANSPORT DOCUMENT'S HEADING

ASEM S.p.A. - Via Buia, 4 - 33011 - Artegna (UD - ITALY)

### GOODS DESTINATION

ASEM S.p.A. - Via Buia, 4 - 33011 - Artegna (UD - ITALY)

### TRANSPORT OBJECT

Return for repair

FOLLOWS RETURN OF GOODS FOR REPAIR: NEXT PAGE ⇨⇨⇨

**IN NOTES' SECTION, SPECIFY:**

Return authorization number, released by Customer Assistance

**SHIPMENT COSTS**

Return for repair of products still under warranty coverage: **outbound** from customer is at customer's charge - the return for repair is ex works Artegna (UD - ITALY) - **return:** at ASEM's charge  
 Return for repair of products no longer under warranty coverage: outbound and return at customer's charge

**PRODUCTS AND CONFIGURATIONS READING TIPS**

**BLACK COLOR SECTIONS: BASIC SYSTEM'S VARIANT**



Variant is intended as a variation of basic configuration's component characteristic, thus, for example, Hard Disk Drive or RAM memory; a variant might be, for instance, a hard disk with larger capacity, or a display with a different size.

**GREY COLOR SECTIONS: OPTION**



Option is intended as a component that is NOT originally included into product's basic configuration; options could be, for example, a CD/DVD unit or a warranty extension.

**BOX / RACKMOUNT PCs NEW NAMES**

old name	new name
PB 720	PB7090
PB 910	PR9090
PB 911	PR9030
PB 920	PR4090
PB 921	PR4040
PB 922	PR4030

**INDUSTRIAL MONITORS NEW NAMES**

old name	new name
PPL-65 xx	MPxx
PL-65 xx	MAxx
RL-65 xx	MRxx


**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**



OT1000 BASIC SYSTEM	
OT1000 basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC · open frame frontal

<b>DISPLAY</b>	LCD TFT 8.4" · SVGA, 800x600, 256K colors · 2 backlights, 350 cd/m <sup>2</sup> · Viewing angle: 100° horizontal, 90° vertical	↓
	LCD TFT 10.4" · VGA, 640x480, 256K colors · 2 backlights, 400 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical	
	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical	
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical	
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical	↓

<b>TOUCH-SCREEN</b>	No Touch-Screen	
	Touch-Screen 8.4" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 10.4" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller	↓

<b>CPU</b>	Transmeta Crusoe TM 5900 · 800 MHz, 512 KB cache · soldered on board	↓
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<b>RAM MEMORY</b>	128 MB · DDR SODIMM (1 module) · PC2700	
	256 MB · DDR SODIMM (1 module) · PC2700	
	512 MB · DDR SODIMM (1 module) · PC2700	↓

<b>OPTIONS</b>	PCI single slot installation kit, equipped with cooling fan (OT1000 NO fanless) > <b>see warning 1</b> 	
	Predisposition to connect PC/104 plus cards (external connector installation) > <b>see warning 2</b> 	
	HDD 2.5" E-IDE ATA · 40 GB, 5400 rpm, 8 MB buffer, equipped with mechanics and cable	
	HDD 2.5" E-IDE ATA · 60 GB, 5400 rpm, 8 MB buffer, equipped with mechanics and cable	
	Parallel interface card, SPP, EPP, ECP bi-directional · DB25 male connector	
	I/O card equipped with 4 digital INPUT (optoisolated, 24V/DC) and with 4 digital OUTPUT (optoisolated, 24V/DC, 500mA)	
	Uninterruptable power supply (UPS) · 15 minutes backup time (min) · equipped with batteries · mounted on PC's rear box	
	Extension cable (length 1 m) for remote UPS installation	
	Mechanical box for PC/104 and PC/104 plus card	
	Wireless LAN kit (IEEE 802.11b) · operating range in open environment: up to 300 m; office environment: 30÷100 m	
	External, DIN guide-installed power supply 220V/AC --> 24V/DC - 60W	
	Warranty extension to 18 months + 1 month exemption on basic system and its variants	
Warranty extension to 24 months + 1 month exemption on basic system and its variants		

**OT1000 BASIC SYSTEM TECHNICAL SPECIFICATIONS**

Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Power supply	18÷36 V/DC · integrated on board · autoranging
Motherboard	"All-In-One" type · ASEM 851
Video controller	ATI Rage Mobility M integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	4 MB
RAM memory sockets	1 x SODIMM module
RAM memory	DDR SODIMM type · PC2700
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	Parallel interface card and I/O interface card predisposition (as foreseen at <i>OPTIONS</i> section)
Solid State Disk slots	1 x Compact Flash Type I slot integrated on board, internal access, and 1 x Compact Flash Type II slot integrated on board, external access
Solid State Disk sockets	1 x NOVRAM socket integrated on board, internal access
Bus expansions slots	2 x PC/104 > <b>see annotation 1</b>
Frontal access interfaces	1 x USB 2.0 · 4 customizable function keys
Rear access interfaces	1 x Ethernet 10/100 Mbps, RJ45 connector · 1 x PS/2, for Keyboard/Mouse · 4 x USB 2.0 · 1 x VGA
Rear access serial interfaces	2 x RS-232, DB9 male connector · 1 x RS-232/422/485, DB15 male connector
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

**ANNOTATIONS**

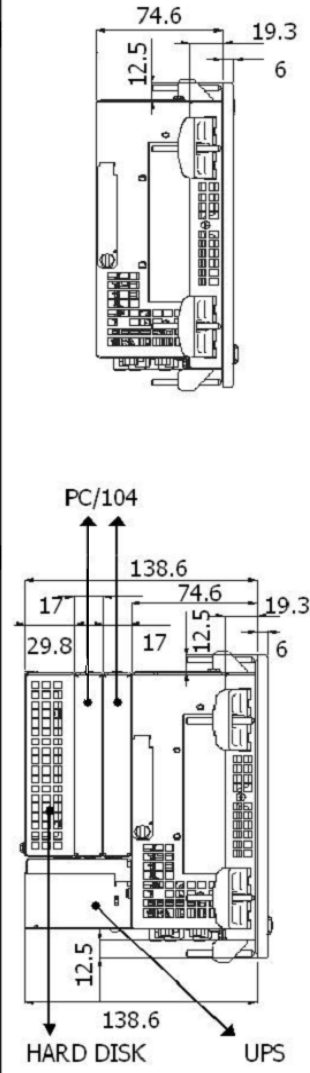
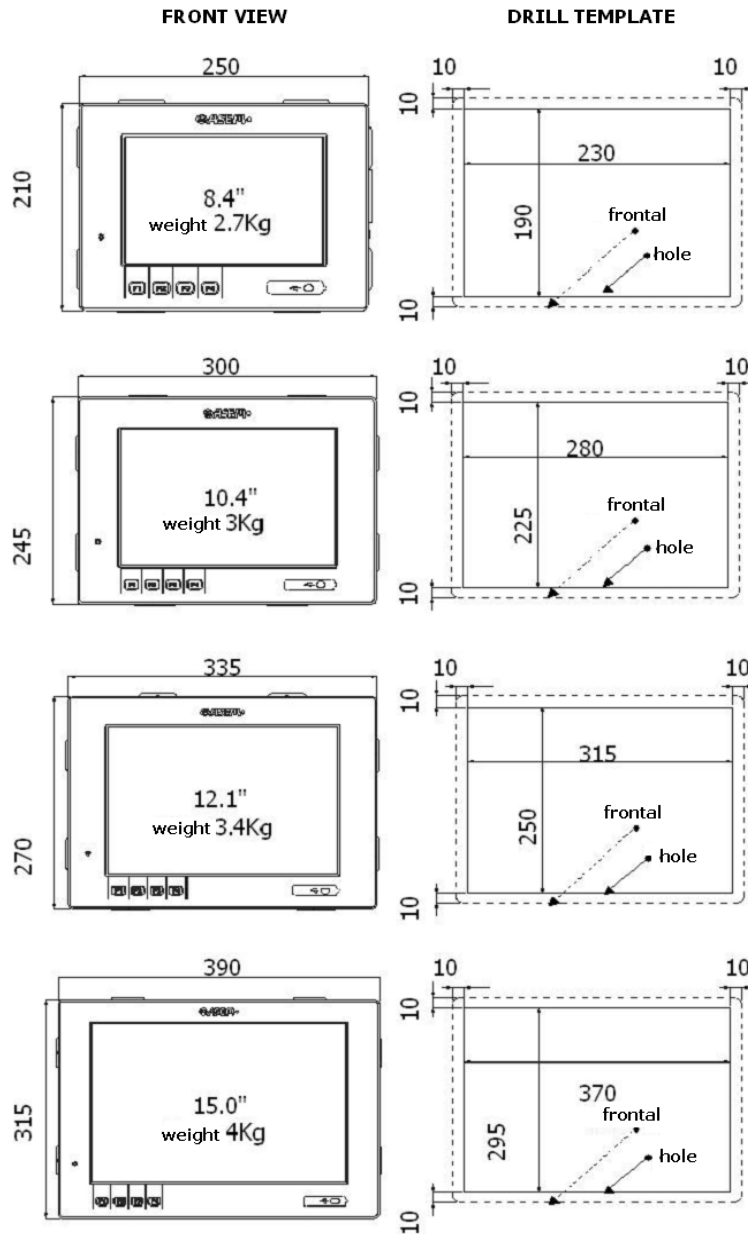
<b>1:</b> · Standard PC/104 expansions slots: 2 x PC/104 cards max · Optional PC/104 plus expansion slots: 2 x PC/104 cards max; or: 2 x PC/104 plus cards max; or: 1 x PC/104 card and 1 x PC/104 plus card · Optional PCI expansion slot (internal): 1 x PC/104 card and 1 x PCI card max
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**WARNINGS** 

<b>1:</b> This option MUST be requested at OT1000's time of order, as native feature - CAN NOT BE INSTALLED LATER
<b>2:</b> This option is available for OT1000 fanless ONLY (without PCI slot) . It MUST be requested at OT1000's time of order, as native feature - CAN NOT BE INSTALLED LATER



**OT1000 OVERALL DIMENSIONS (mm)**



MINIMUM DEEPNESS  
see annotation 1

MAXIMUM DEEPNESS  
see annotation 1

**ANNOTATIONS**

1: OT1000 8.4" shown in picture - minimum / maximum deepness is common to all LCD sizes


**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**
**WS410/H1 BASIC SYSTEM**

WS410/H1 basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC
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<b>DISPLAY</b>	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical	↓
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical	
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical	
	LCD TFT 17" · SXGA, 1280x1024, 16M colors · 2 backlights, 300 cd/m <sup>2</sup> · Viewing angle: 150° horizontal, 135° vertical	↓
<b>TOUCH-SCREEN</b>	No Touch-Screen	
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 17" · 5-wire resistive technology (ELO) · on-board integrated controller	↓
<b>CPU</b>	Intel Celeron · 1.2 GHz, 100MHz front side bus, 256KB cache · socket 370	
	Intel Pentium III · 1.26 GHz, 133MHz front side bus, 512KB cache · socket 370	
	Intel Pentium III · 1.4 GHz, 133MHz front side bus, 512KB cache · socket 370	↓
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133 Low profile	
	256 MB · SDRAM , 1 DIMM module PC133 Low profile	
	512 MB · SDRAM , 1 DIMM module PC133 Low profile	↓
<b>HARD DISK</b>	No Hard Disk kit	
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer	
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer	↓
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging	
	18÷36V/DC · 140W, autoranging	
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access	
	Compact Flash Type II card · internal access	
	Additional RS 232/422/485 serial port (4th) · DB15 male connector > <b>see annotation 1</b>	
	Side module for push-buttons, for WS410 TFT 12" · supplied without push-buttons	
	Side module for push-buttons, for WS410 TFT 15" · supplied without push-buttons	
	Warranty extension to 18 months + 1 month exemption on basic system and its variants	
Warranty extension to 24 months + 1 month exemption on basic system and its variants		

**WS410/H1 BASIC SYSTEM TECHNICAL SPECIFICATIONS**

Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

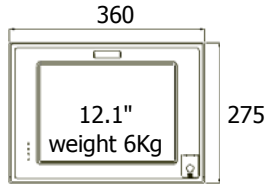
**ANNOTATIONS**

<b>1:</b> Additional serial port can be installed as an alternative to touch screen only
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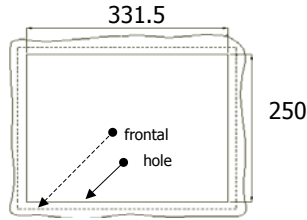


**WS410/H1 OVERALL DIMENSIONS (mm)**

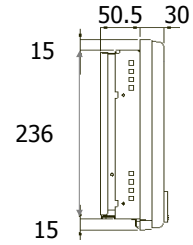
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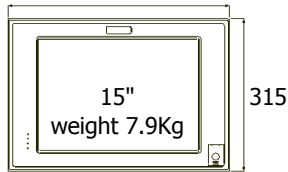
**DRILL TEMPLATE**



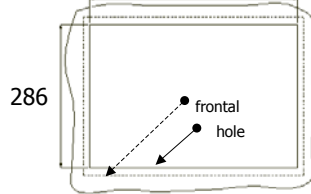
**SIDE VIEW**



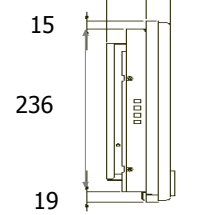
**FRONT VIEW**



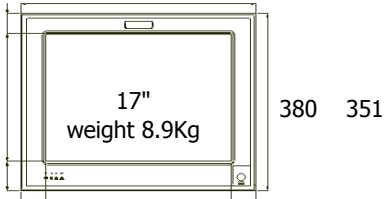
**DRILL TEMPLATE**



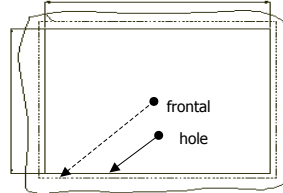
**SIDE VIEW**



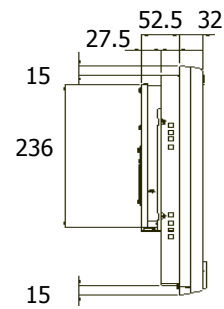
**FRONT VIEW**



**DRILL TEMPLATE**



**SIDE VIEW**



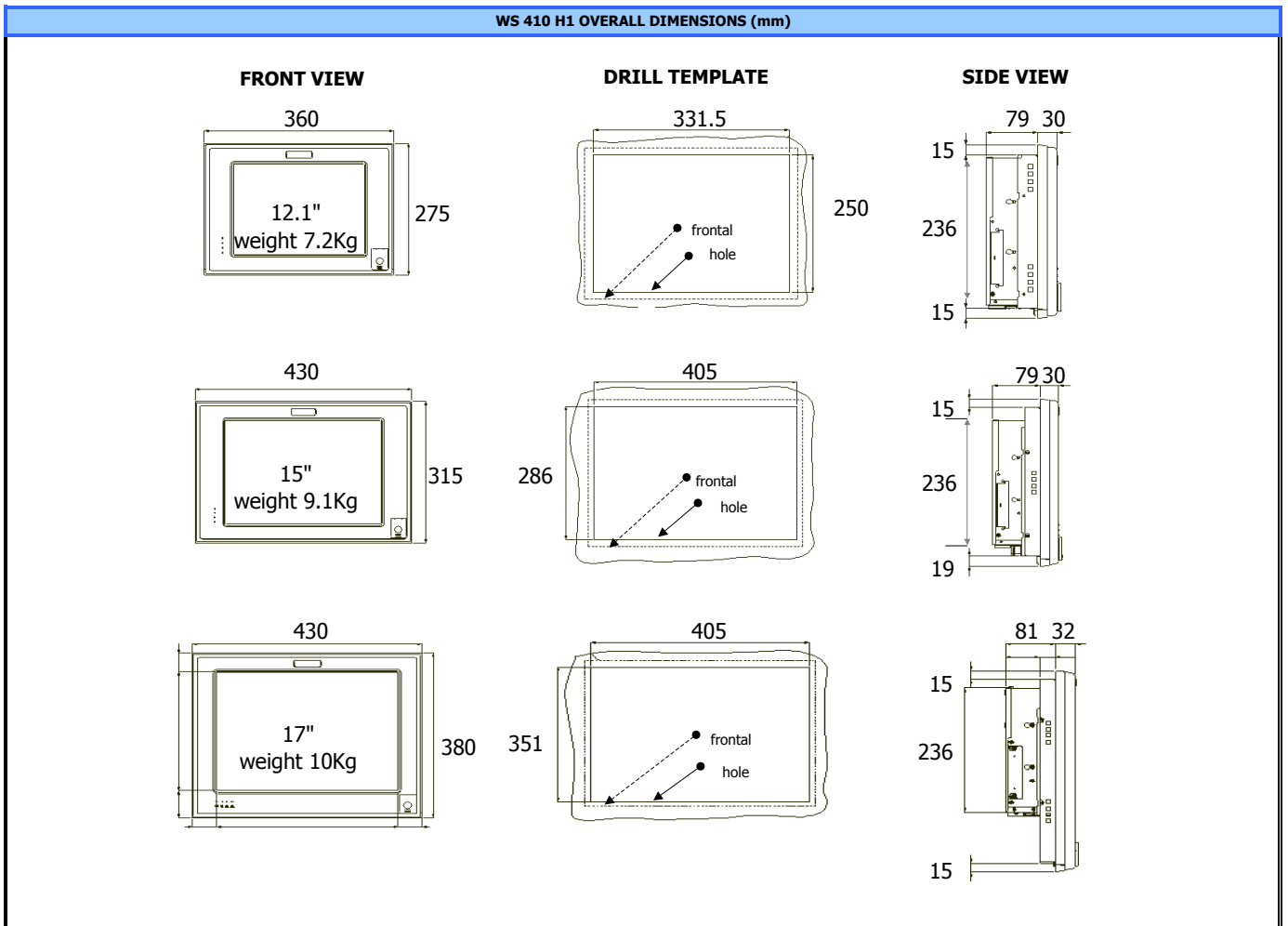


## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

WS410/H2 BASIC SYSTEM	
WS410/H2 basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC
<b>DISPLAY</b>	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical
	LCD TFT 17" · SXGA, 1280x1024, 16M colors · 2 backlights, 300 cd/m <sup>2</sup> · Viewing angle: 150° horizontal, 135° vertical
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller
	Touch-Screen 17" · 5-wire resistive technology (ELO) · on-board integrated controller
<b>CPU</b>	Intel Celeron · 1,2 GHz, 100MHz front side bus, 256KB cache · socket 370
	Intel Pentium III · 1,26 GHz, 133MHz front side bus, 512KB cache · socket 370
	Intel Pentium III · 1,4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133
	256 MB · SDRAM , 1 DIMM module PC133
	512 MB · SDRAM , 1 DIMM module PC133
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer
	Kit HDD 80GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging
	18÷36V/DC · 140W, autoranging
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB · H=1" · drive's front color = white > <b>see annotation 1</b>
	Kit CD-ROM E-IDE 24x Slim · H=0.5" · drive's front color = black
	Kit COMBO DVD-ROM · E-IDE 24x / CD-RW 24x10x24x Slim · H=0.5" · drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim · H=1" · drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim · H=1" · drive's front color = black
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access
	Compact Flash Type II card · internal access
	Additional RS 232/422/485 serial port (4th) · DB15 male connector > <b>see annotation 2</b>
	Side module for push-buttons, for WS410 TFT 12" · supplied without push-buttons
	Side module for push-buttons, for WS410 TFT 15" · supplied without push-buttons
	Extractable drawer for 2.5" HDD E-IDE ATA · supplied without HDD
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA · 5400rpm, 8 MB buffer
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA · 5400rpm, 8 MB buffer
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
Warranty extension to 24 months + 1 month exemption on basic system and its variants	
<b>ANNOTATIONS</b>	
<b>1:</b> Standard height (1") FDD can be installed as an alternative to the slim units only	
<b>2:</b> Additional serial port can be installed as an alternative to touch screen only	



WS410/H2 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**
**WS410/H3 BASIC SYSTEM**

WS410/H3 basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC
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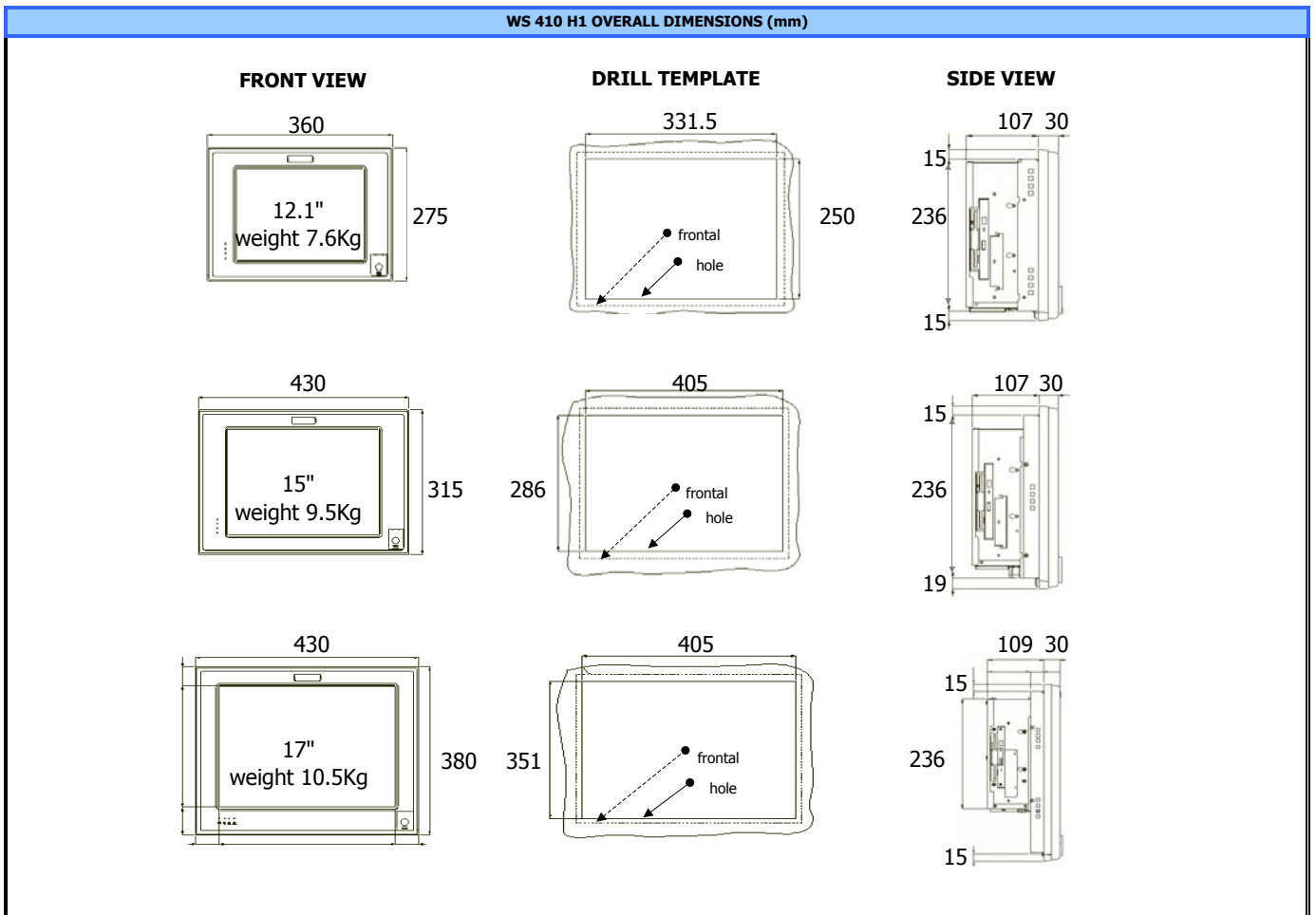
<b>DISPLAY</b>	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical	↓
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical	
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical	
	LCD TFT 17" · SXGA, 1280x1024, 16M colors · 2 backlights, 300 cd/m <sup>2</sup> · Viewing angle: 150° horizontal, 135° vertical	↓
<b>TOUCH-SCREEN</b>	No Touch-Screen	
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 17" · 5-wire resistive technology (ELO) · on-board integrated controller	↓
<b>CPU</b>	Intel Celeron · 1,2 GHz, 100MHz front side bus, 256KB cache · socket 370	
	Intel Pentium III · 1,26 GHz, 133MHz front side bus, 512KB cache · socket 370	
	Intel Pentium III · 1,4 GHz, 133MHz front side bus, 512KB cache · socket 370	↓
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133	
	256 MB · SDRAM , 1 DIMM module PC133	
	512 MB · SDRAM , 1 DIMM module PC133	↓
<b>HARD DISK</b>	No Hard Disk kit	
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer	
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer	
	Kit HDD 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer	
	Kit HDD 80GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer	↓
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging	
	18÷36V/DC · 140W, autoranging	
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB · H=1" · drive's front color = white > <b>see annotation 1</b>	
	Kit CD-ROM E-IDE 24x Slim · H=0.5" · drive's front color = black	
	Kit COMBO DVD-ROM · E-IDE 24x / CD-RW 24x10x24x Slim · H=0.5" · drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim · H=1" · drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+CO MBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim · H=1" · drive's front color = black	
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access	
	Compact Flash Type II card · internal access	
	Additional RS 232/422/485 serial port (4th) · DB15 male connector > <b>see annotation 2</b>	
	Side module for push-buttons, for WS410 TFT 12" · supplied without push-buttons	
	Side module for push-buttons, for WS410 TFT 15" · supplied without push-buttons	
	Extractable drawer for 2.5" HDD E-IDE ATA · supplied without HDD	
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA · 5400rpm, 8 MB buffer	
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA · 5400rpm, 8 MB buffer	
Warranty extension to 18 months + 1 month exemption on basic system and its variants		
Warranty extension to 24 months + 1 month exemption on basic system and its variants		

**ANNOTATIONS**

- 1:** Standard height (1") FDD can be installed as an alternative to the slim units only
- 2:** Additional serial port can be installed as an alternative to touch screen only



WS 410 H2 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Motherboard	"All-In-One" type • ASEM 823 • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type • PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	2 x PCI
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) • 1 x parallel SPP-EPP-ECP bidir. DB25 male connector • 1 x Ethernet 10/100Mbit RJ45 connector • 2 x USB (1 x 1.1, 1 x 2.0) • 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector • 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD • storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters





# WS410/H1-TE

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

WS410/H1-TE BASIC SYSTEM	
WS410/H1-TE basic configuration	LCD TFT 12,1" • Touch-Screen 12,1" • Intel Celeron 1,2GHz • 128 MB RAM • kit HDD 40GB • No FDD • power supply 220V/AC • Extended keyboard
<b>DISPLAY</b>	LCD TFT 12.1" • SVGA, 800x600, 16M colors • 2 backlights, 250 cd/m <sup>2</sup> • Viewing angle: 140° horizontal, 120° vertical
	LCD TFT 15" • XGA, 1024x768, 16M colors • 4 backlights, 250 cd/m <sup>2</sup> • Viewing angle: 170° horizontal, 170° vertical
	LCD TFT 15" • XGA, 1024x768, 16M colors • 4 backlights, 600 cd/m <sup>2</sup> • Viewing angle: 120° horizontal, 100° vertical
	LCD TFT 17" • SXGA, 1280x1024, 16M colors • 2 backlights, 300 cd/m <sup>2</sup> • Viewing angle: 150° horizontal, 135° vertical
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" • 5-wire resistive technology (ELO) • on-board integrated controller
	Touch-Screen 15" • 5-wire resistive technology (ELO) • on-board integrated controller
	Touch-Screen 17" • 5-wire resistive technology (ELO) • on-board integrated controller
<b>CPU</b>	Intel Celeron • 1.2 GHz, 100MHz front side bus, 256KB cache • socket 370
	Intel Pentium III • 1.26 GHz, 133MHz front side bus, 512KB cache • socket 370
	Intel Pentium III • 1.4 GHz, 133MHz front side bus, 512KB cache • socket 370
<b>RAM MEMORY</b>	128 MB • SDRAM , 1 DIMM module PC133 Low profile
	256 MB • SDRAM , 1 DIMM module PC133 Low profile
	512 MB • SDRAM , 1 DIMM module PC133 Low profile
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA • 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA • 5400rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC • 140W, autoranging
	18÷36V/DC • 140W, autoranging
<b>FDD/CD/DVD FRONT ACCESS</b>	Kit FDD 3,5" 1,44 MB Slim (protection IP65) • H=0,5" • drive's front color = black
	Kit CD-ROM E-IDE 24x Slim (protection IP65) • H=0,5" • drive's front color = black
	Kit COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim (protection IP65) • H=0,5" • drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim (protection IP65) • H=0,5" • drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x/CD-RW 24x10x24x Slim (IP65) • H=0,5" • drive's front color = black
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin • internal access
	Compact Flash Type II card • internal access
	Additional RS 232/422/485 serial port (4th) • DB15 male connector > <b>see annotation 1</b>
	Side module for push-buttons, for WS410 TFT 12" • supplied without push-buttons
	Side module for push-buttons, for WS410 TFT 15" • supplied without push-buttons
	Inclined blank side module (without devices) • laterally to the keyboard
	Inclined side module with TouchPad • PS/2 interface • 5-wire resistive technology • laterally to the keyboard
	Inclined side module with TrackBall • PS/2 interface • static protection IP65, IP54 dynamic • laterally to the keyboard
Warranty extension to 18 months + 1 month exemption on basic system and its variants	
Warranty extension to 24 months + 1 month exemption on basic system and its variants	

WS410/H1-TE BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Keyboard	Full alphanumeric membrane keyboard, 12 function keys, scroll and control keys
Motherboard	"All-In-One" type • ASEM 823 • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type • PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) • 1 x parallel SPP-EPP-ECP bidir. DB25 male connector • 1 x Ethernet 10/100Mbit RJ45 connector • 2 x USB (1 x 1.1, 1 x 2.0) • 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector • 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD • storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

### ANNOTATIONS

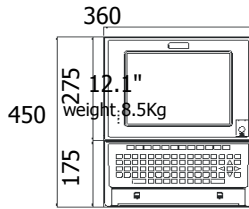
**1:** Additional serial port can be installed as an alternative to touch screen only



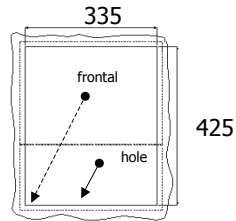
# WS410/H1-TE

**WS410/H1-TE OVERALL DIMENSIONS (mm)**

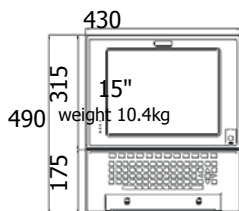
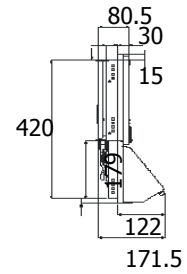
**FRONT VIEW**



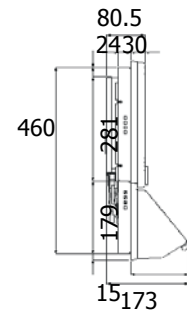
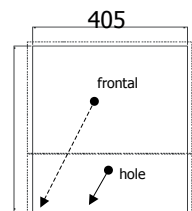
**DRILL TEMPLATE**



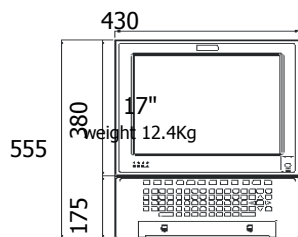
**SIDE VIEW**



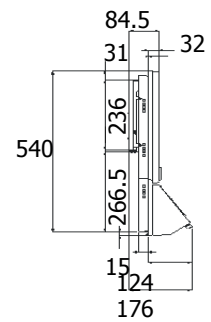
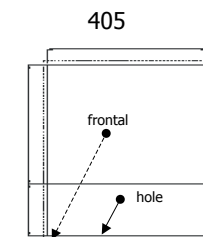
465



122.5



530





# WS410/H2-TE

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

### WS410/H2-TE BASIC SYSTEM

WS410/H2-TE basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC · Extended keyboard	
<b>DISPLAY</b>	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical	↓
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical	
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical	
	LCD TFT 17" · SXGA, 1280x1024, 16M colors · 2 backlights, 300 cd/m <sup>2</sup> · Viewing angle: 150° horizontal, 135° vertical	↓
<b>TOUCH-SCREEN</b>	No Touch-Screen	
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller	
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller	
<b>CPU</b>	Intel Celeron · 1,2 GHz, 100MHz front side bus, 256KB cache · socket 370	
	Intel Pentium III · 1,26 GHz, 133MHz front side bus, 512KB cache · socket 370	
	Intel Pentium III · 1,4 GHz, 133MHz front side bus, 512KB cache · socket 370	↓
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133	
	256 MB · SDRAM , 1 DIMM module PC133	
	512 MB · SDRAM , 1 DIMM module PC133	↓
<b>HARD DISK</b>	No Hard Disk kit	
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer	
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer	
	Kit HDD 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer	
	Kit HDD 80GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer	↓
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging	
	18÷36V/DC · 140W, autoranging	
<b>FDD/CD/DVD FRONT ACCESS</b>	Kit FDD 3,5" 1,44 MB Slim (protection IP65) · H=0,5" · drive's front color = black	
	Kit CD-ROM E-IDE 24x Slim (protection IP65) · H=0,5" · drive's front color = black	
	Kit COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim (protection IP65) · H=0,5" · drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim (protection IP65) · H=0,5" · drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x/CD-RW 24x10x24x Slim (IP65) · H=0,5" · drive's front color = black	
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB · H=1" · drive's front color = white > <b>see annotation 1</b>	
	Kit CD-ROM E-IDE 24x Slim · H=0.5" · drive's front color = black	
	Kit COMBO DVD-ROM · E-IDE 24x / CD-RW 24x10x24x Slim · H=0.5" · drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim · H=1" · drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim · H=1" · drive's front color = black	
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access	
	Compact Flash Type II card · internal access	
	Additional RS 232/422/485 serial port (4th) · DB15 male connector > <b>see annotation 2</b>	
	Side module for push-buttons, for WS410 TFT 12" · supplied without push-buttons	
	Side module for push-buttons, for WS410 TFT 15" · supplied without push-buttons	
	Inclined blank side module (without devices) · laterally to the keyboard	
	Inclined side module with TouchPad · PS/2 interface · 5-wire resistive technology · laterally to the keyboard	
	Inclined side module with TrackBall · PS/2 interface · static protection IP65, IP54 dynamic · laterally to the keyboard	
	Extractable drawer for 2.5" HDD E-IDE ATA · supplied without HDD	
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA · 5400rpm, 8 MB buffer	
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA · 5400rpm, 8 MB buffer	
Warranty extension to 18 months + 1 month exemption on basic system and its variants		
Warranty extension to 24 months + 1 month exemption on basic system and its variants		

### ANNOTATIONS

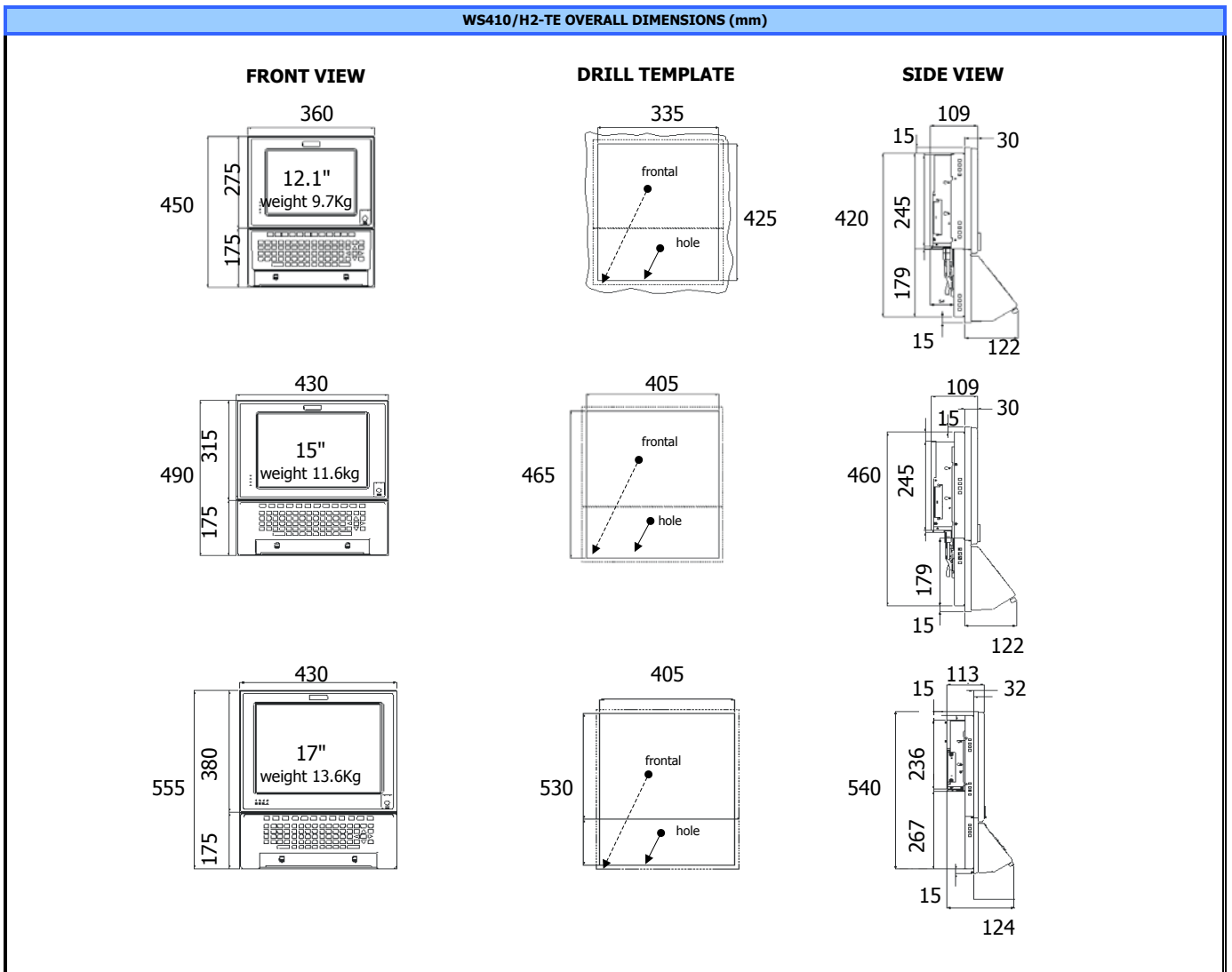
- 1: Standard height (1") FDD can be installed as an alternative to the slim units only
- 2: Additional serial port can be installed as an alternative to touch screen only

TECHNICAL SPECIFICATIONS: see REAR ⇨⇨⇨



# WS410/H2-TE

WS410/H2-TE BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Keyboard	Full alphanumeric membrane keyboard, 12 function keys, scroll and control keys
Motherboard	"All-In-One" type • ASEM 823 • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type • PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) • 1 x parallel SPP-EPP-ECP bidir. DB25 male connector • 1 x Ethernet 10/100Mbit RJ45 connector • 2 x USB (1 x 1.1, 1 x 2.0) • 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector • 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD • storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**
**WS410/H3-TE BASIC SYSTEM**

WS410/H3-TE basic configuration	LCD TFT 12,1" • Touch-Screen 12,1" • Intel Celeron 1,2GHz • 128 MB RAM • kit HDD 40GB • No FDD • power supply 220V/AC • Extended keyboard	
<b>DISPLAY</b>	LCD TFT 12.1" • SVGA, 800x600, 16M colors • 2 backlights, 250 cd/m <sup>2</sup> • Viewing angle: 140° horizontal, 120° vertical	↓
	LCD TFT 15" • XGA, 1024x768, 16M colors • 4 backlights, 250 cd/m <sup>2</sup> • Viewing angle: 170° horizontal, 170° vertical	
	LCD TFT 15" • XGA, 1024x768, 16M colors • 4 backlights, 600 cd/m <sup>2</sup> • Viewing angle: 120° horizontal, 100° vertical	
	LCD TFT 17" • SXGA, 1280x1024, 16M colors • 2 backlights, 300 cd/m <sup>2</sup> • Viewing angle: 150° horizontal, 135° vertical	
<b>TOUCH-SCREEN</b>	No Touch-Screen	↓
	Touch-Screen 12.1" • 5-wire resistive technology (ELO) • on-board integrated controller	
	Touch-Screen 15" • 5-wire resistive technology (ELO) • on-board integrated controller	
<b>CPU</b>	Intel Celeron • 1,2 GHz, 100MHz front side bus, 256KB cache • socket 370	
	Intel Pentium III • 1,26 GHz, 133MHz front side bus, 512KB cache • socket 370	
	Intel Pentium III • 1,4 GHz, 133MHz front side bus, 512KB cache • socket 370	↓
<b>RAM MEMORY</b>	128 MB • SDRAM, 1 DIMM module PC133	
	256 MB • SDRAM, 1 DIMM module PC133	
	512 MB • SDRAM, 1 DIMM module PC133	↓
<b>HARD DISK</b>	No Hard Disk kit	
	Kit HDD 40GB 2.5" E-IDE ATA • 5400rpm, 8 MB buffer	
	Kit HDD 60GB 2.5" E-IDE ATA • 5400rpm, 8 MB buffer	
	Kit HDD 40GB 3.5" E-IDE ATA • 7200rpm, 8 MB buffer	↓
<b>POWER SUPPLY</b>	110÷220V/AC • 140W, autoranging	
	18÷36V/DC • 140W, autoranging	
<b>FDD/CD/DVD FRONT ACCESS</b>	Kit FDD 3,5" 1,44 MB Slim (protection IP65) • H=0,5" • drive's front color = black	
	Kit CD-ROM E-IDE 24x Slim (protection IP65) • H=0,5" • drive's front color = black	
	Kit COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim (protection IP65) • H=0,5" • drive's front color = black	
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim (protection IP65) • H=0,5" • drive's front color = black	↓
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB • H=1" > <b>see annotation 1</b>	
	Kit CD-ROM E-IDE 24x Slim • H=0.5"	
	Kit COMBO DVD-ROM • E-IDE 24x / CD-RW 24x10x24x Slim • H=0.5"	
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim • H=1"	↓
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin • internal access	
	Compact Flash Type II card • internal access	
	Additional RS 232/422/485 serial port (4th) • DB15 male connector > <b>see annotation 2</b>	
	Side module for push-buttons, for WS410 TFT 12" • supplied without push-buttons	
	Side module for push-buttons, for WS410 TFT 15" • supplied without push-buttons	
	Inclined blank side module (without devices) • laterally to the keyboard	
	Inclined side module with TouchPad • PS/2 interface • 5-wire resistive technology • laterally to the keyboard	
	Inclined side module with TrackBall • PS/2 interface • static protection IP65, IP54 dynamic • laterally to the keyboard	
	Extractable drawer for 2.5" HDD E-IDE ATA • supplied without HDD	
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA • 5400rpm, 8 MB buffer	
Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA • 5400rpm, 8 MB buffer		
Warranty extension to 18 months + 1 month exemption on basic system and its variants		
Warranty extension to 24 months + 1 month exemption on basic system and its variants		

**ANNOTATIONS**

- 1:** Standard height (1") FDD can be installed as an alternative to the slim units only  
**2:** Additional serial port can be installed as an alternative to touch screen only

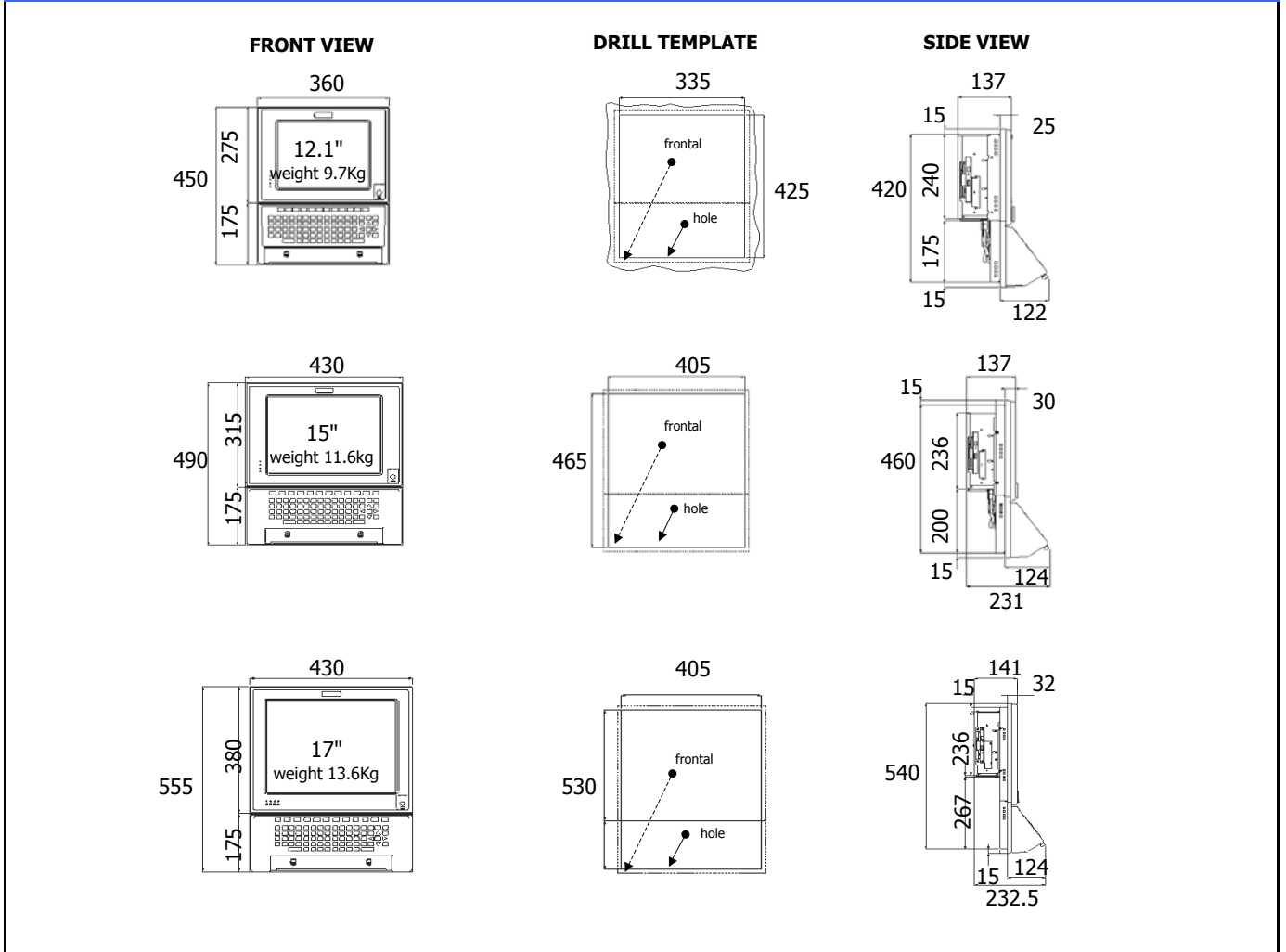
TECHNICAL SPECIFICATIONS: see REAR ⇨⇨⇨



# WS410/H3-TE

WS410/H3-TE BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Panel mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Keyboard	Full alphanumeric membrane keyboard, 12 function keys, scroll and control keys
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	2 x PCI
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

## WS410/H3-TE OVERALL DIMENSIONS (mm)





## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

WS420/H1 BASIC SYSTEM	
WS420/H1 basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC · Open frame frontal
<b>DISPLAY</b>	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller
<b>CPU</b>	Intel Celeron · 1.2 GHz, 100MHz front side bus, 256KB cache · socket 370
	Intel Pentium III · 1.26 GHz, 133MHz front side bus, 512KB cache · socket 370
	Intel Pentium III · 1.4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133 Low profile
	256 MB · SDRAM , 1 DIMM module PC133 Low profile
	512 MB · SDRAM , 1 DIMM module PC133 Low profile
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging
	18÷36V/DC · 140W, autoranging
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access
	Compact Flash Type II card · internal access
	Additional RS 232/422/485 serial port (4th) · DB15 male connector > <b>see annotation 1</b>
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

### WS420/H1 BASIC SYSTEM TECHNICAL SPECIFICATIONS

Case	Rear panel mount
Overall dimensions & weight	See details on the rear
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

### ANNOTATIONS

**1:** Additional serial port can be installed as an alternative to touch screen only




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

WS420/H2 BASIC SYSTEM	
WS420/H2 basic configuration	LCD TFT 12,1" • Touch-Screen 12,1" • Intel Celeron 1,2GHz • 128 MB RAM • kit HDD 40GB • No FDD • power supply 220V/AC • Open frame frontal
<b>DISPLAY</b>	LCD TFT 12.1" • SVGA, 800x600, 16M colors • 2 backlights, 250 cd/m <sup>2</sup> • Viewing angle: 140° horizontal, 120° vertical LCD TFT 15" • XGA, 1024x768, 16M colors • 4 backlights, 250 cd/m <sup>2</sup> • Viewing angle: 170° horizontal, 170° vertical LCD TFT 15" • XGA, 1024x768, 16M colors • 4 backlights, 600 cd/m <sup>2</sup> • Viewing angle: 120° horizontal, 100° vertical
<b>TOUCH-SCREEN</b>	No Touch-Screen Touch-Screen 12.1" • 5-wire resistive technology (ELO) • on-board integrated controller Touch-Screen 15" • 5-wire resistive technology (ELO) • on-board integrated controller
<b>CPU</b>	Intel Celeron • 1.2 GHz, 100MHz front side bus, 256KB cache • socket 370 Intel Pentium III • 1.26 GHz, 133MHz front side bus, 512KB cache • socket 370 Intel Pentium III • 1.4 GHz, 133MHz front side bus, 512KB cache • socket 370
<b>RAM MEMORY</b>	128 MB • SDRAM , 1 DIMM module PC133 Low profile 256 MB • SDRAM , 1 DIMM module PC133 Low profile 512 MB • SDRAM , 1 DIMM module PC133 Low profile
<b>HARD DISK</b>	No Hard Disk kit Kit HDD 40GB 2.5" E-IDE ATA • 5400rpm, 8 MB buffer Kit HDD 60GB 2.5" E-IDE ATA • 5400rpm, 8 MB buffer Kit HDD 40GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer Kit HDD 80GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC • 140W, autoranging 18÷36V/DC • 140W, autoranging
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB • H=1" • drive's front color = white > <b>see annotation 1</b> Kit CD-ROM E-IDE 24x Slim • H=0.5" • drive's front color = black Kit COMBO DVD-ROM • E-IDE 24x / CD-RW 24x10x24x Slim • H=0.5" • drive's front color = black Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim • H=1" • drive's front color = black Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim • H=1" • drive's front color = black
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin • internal access Compact Flash Type II card • internal access Additional RS 232/422/485 serial port (4th) • DB15 male connector > <b>see annotation 2</b> Extractable drawer for 2.5" HDD E-IDE ATA • supplied without HDD Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA • 5400rpm, 8 MB buffer Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA • 5400rpm, 8 MB buffer Warranty extension to 18 months + 1 month exemption on basic system and its variants Warranty extension to 24 months + 1 month exemption on basic system and its variants

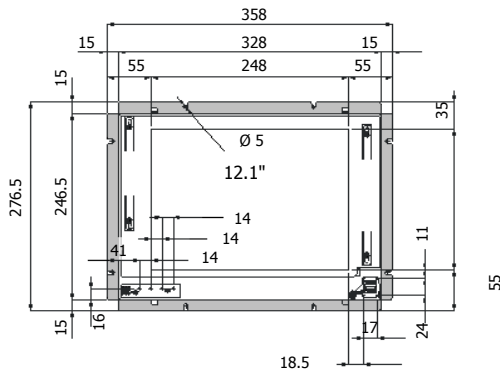
WS420/H2 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Rear panel mount
Overall dimensions & weight	See details on the rear
Motherboard	"All-In-One" type • ASEM 823 • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type • PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) • 1 x parallel SPP-EPP-ECP bidir. DB25 male connector • 1 x Ethernet 10/100Mbit RJ45 connector • 2 x USB (1 x 1.1, 1 x 2.0) • 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector • 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD • storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

ANNOTATIONS
<b>1:</b> Standard height (1") FDD can be installed as an alternative to the slim units only
<b>2:</b> Additional serial port can be installed as an alternative to touch screen only

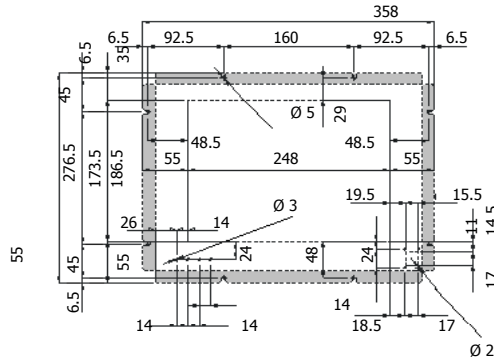


**WS420/H2 OVERALL DIMENSIONS (mm)**

**FRONT VIEW**



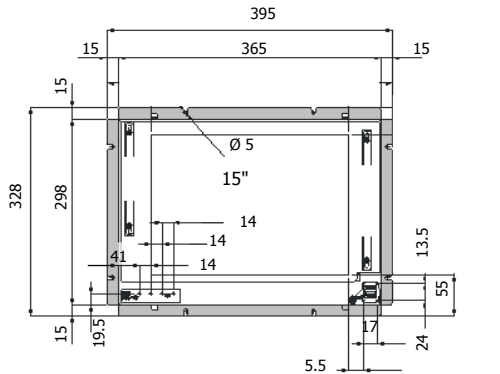
**DRILL TEMPLATE**



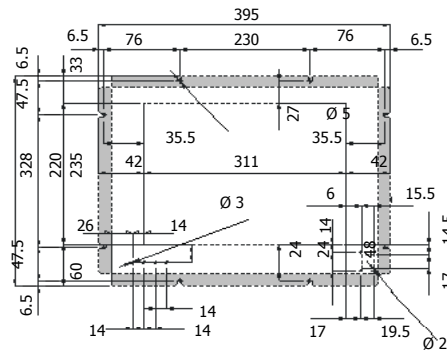
**SIDE VIEW**



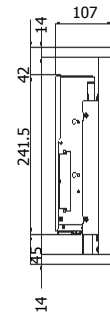
**FRONT VIEW**



**DRILL TEMPLATE**



**SIDE VIEW**





## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

WS420/H3 BASIC SYSTEM	
WS420/H3 basic configuration	LCD TFT 12,1" · Touch-Screen 12,1" · Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC · Open frame frontal
<b>DISPLAY</b>	LCD TFT 12.1" · SVGA, 800x600, 16M colors · 2 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 140° horizontal, 120° vertical
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 250 cd/m <sup>2</sup> · Viewing angle: 170° horizontal, 170° vertical
	LCD TFT 15" · XGA, 1024x768, 16M colors · 4 backlights, 600 cd/m <sup>2</sup> · Viewing angle: 120° horizontal, 100° vertical
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" · 5-wire resistive technology (ELO) · on-board integrated controller
	Touch-Screen 15" · 5-wire resistive technology (ELO) · on-board integrated controller
<b>CPU</b>	Intel Celeron · 1.2 GHz, 100MHz front side bus, 256KB cache · socket 370
	Intel Pentium III · 1.26 GHz, 133MHz front side bus, 512KB cache · socket 370
	Intel Pentium III · 1.4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133 Low profile
	256 MB · SDRAM , 1 DIMM module PC133 Low profile
	512 MB · SDRAM , 1 DIMM module PC133 Low profile
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer
	Kit HDD 80GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging
	18÷36V/DC · 140W, autoranging
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB · H=1" · drive's front color = white > <b>see annotation 1</b>
	Kit CD-ROM E-IDE 24x Slim · H=0.5" · drive's front color = black
	Kit COMBO DVD-ROM · E-IDE 24x / CD-RW 24x10x24x Slim · H=0.5" · drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim · H=1" · drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim · H=1" · drive's front color = black
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access
	Compact Flash Type II card · internal access
	Additional RS 232/422/485 serial port (4th) · DB15 male connector > <b>see annotation 2</b>
	Extractable drawer for 2.5" HDD E-IDE ATA · supplied without HDD
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA · 5400rpm, 8 MB buffer
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA · 5400rpm, 8 MB buffer
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
Warranty extension to 24 months + 1 month exemption on basic system and its variants	

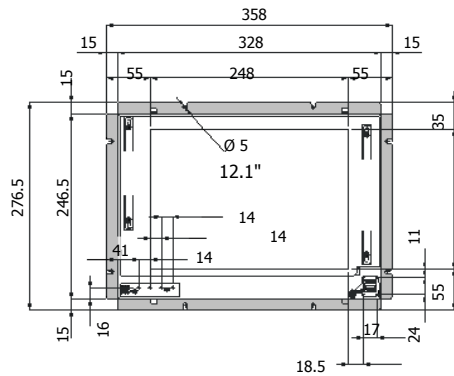
WS420/H3 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Rear panel mount
Overall dimensions & weight	See details on the rear
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	2 x PCI
Frontal access interfaces	2 x USB (1 x 1.1, 1 x 2.0)
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

ANNOTATIONS
<b>1:</b> Standard height (1") FDD can be installed as an alternative to the slim units only
<b>2:</b> Additional serial port can be installed as an alternative to touch screen only

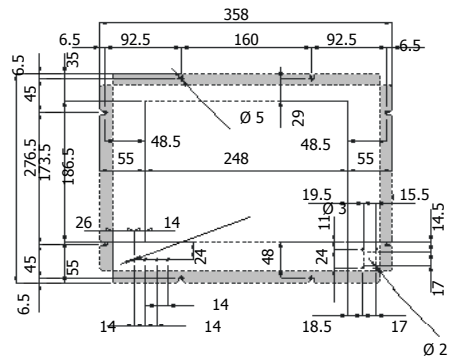


**WS420/H3 OVERALL DIMENSIONS (mm)**

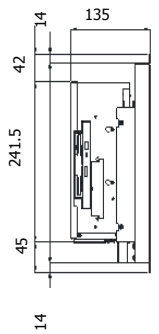
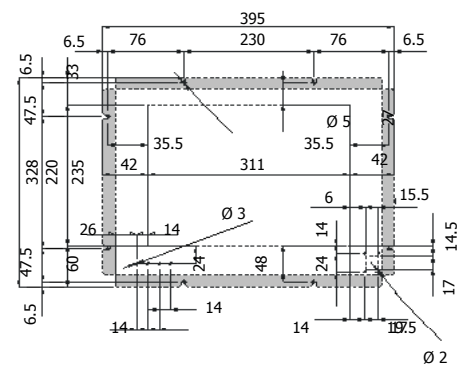
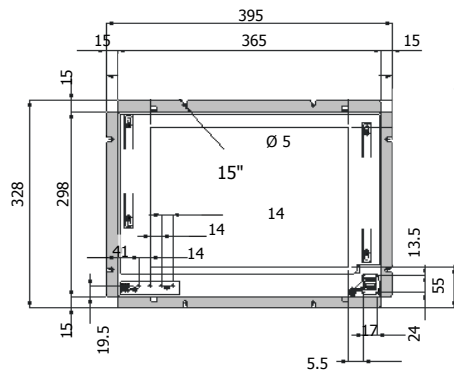
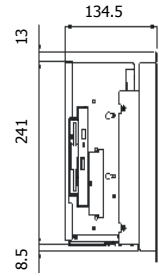
**FRONT VIEW**



**DRILL TEMPLATE**





**SIDE VIEW**




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

PB1000 BASIC SYSTEM	
PB1000 basic configuration	TM5900 800MHz • 128 MB RAM • fanless

<b>CPU</b>	Transmeta Crusoe TM 5900 • 800 MHz, 512 KB cache • soldered on board	↓
		↓
<b>RAM MEMORY</b>	128 MB • DDR SODIMM (1 module) • PC2700	
	256 MB • DDR SODIMM (1 module) • PC2700	
	512 MB • DDR SODIMM (1 module) • PC2700	

<b>OPTIONS</b>	PCI single slot installation kit, equipped with cooling fan (OT1000 NO fanless) > <b>see warning 1</b> 	
	Predisposition to connect PC/104 plus cards (external connector installation) > <b>see warning 2</b> 	
	HDD 2.5" E-IDE ATA • 40 GB, 5400 rpm, 8 MB buffer, equipped with mechanics and cable	
	HDD 2.5" E-IDE ATA • 60 GB, 5400 rpm, 8 MB buffer, equipped with mechanics and cable	
	Parallel interface card, SPP, EPP, ECP bi-directional • DB25 male connector	
	I/O card equipped with 4 digital INPUT (optoisolated, 24V/DC) and with 4 digital OUTPUT (optoisolated, 24V/DC, 500mA)	
	Uninterruptable power supply (UPS) • 15 minutes backup time (min) • equipped with batteries • mounted on PC's rear box	
	Extension cable (length 1 m) for remote UPS installation	
	Mechanical box for PC/104 and PC/104 plus card	
	Wireless LAN kit (IEEE 802.11b) • operating range in open environment: up to 300 m; office environment: 30÷100 m	
	External, DIN guide-installed power supply 220V/DC --> 24V/DC - 60W	
	Warranty extension to 18 months + 1 month exemption on basic system and its variants	
	Warranty extension to 24 months + 1 month exemption on basic system and its variants	

**PB1000 BASIC SYSTEM TECHNICAL SPECIFICATIONS**

Case	DIN rail mount
Overall dimensions & weight	See details on the rear
Power supply	18÷36 V/DC • integrated on board • autoranging
Motherboard	"All-In-One" type • ASEM 851
Video controller	ATI Rage Mobility M integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	4 MB
RAM memory sockets	1 x SODIMM module
RAM memory	DDR SODIMM type • PC2700
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	Parallel interface card and I/O interface card predisposition (as foreseen at <i>OPTIONS</i> section)
Solid State Disk slots	1 x Compact Flash Type I slot integrated on board, internal access, and 1 x Compact Flash Type II slot integrated on board, external access
Solid State Disk sockets	1 x NOVRAM socket integrated on board, internal access
Bus expansions slots	2 x PC/104 > <b>see annotation 1</b>
Rear access interfaces	1 x Ethernet 10/100 Mbps, RJ45 connector • 1 x PS/2, for Keyboard/Mouse • 4 x USB 2.0 • 1 x VGA
Rear access serial interfaces	2 x RS-232, DB9 male connector • 1 x RS-232/422/485, DB15 male connector
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD • storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

**ANNOTATIONS**

<b>1:</b> • Standard PC/104 expansions slots: 2 x PC/104 cards max • Optional PC/104 plus expansion slots: 2 x PC/104 cards max; or: 2 x PC/104 plus cards max; or: 1 x PC/104 card and 1 x PC/104 plus card • Optional PCI expansion slot (internal): 1 x PC/104 card and 1 x PCI card max
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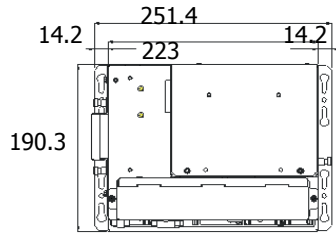
**WARNINGS**

<b>1:</b> This option MUST be requested at PB1000's time of order, as native feature - CAN NOT BE INSTALLED LATER <b>2:</b> This option is available for PB1000 fanless ONLY (without PCI slot) . It MUST be requested at PB1000's time of order, as native feature - CAN NOT BE INSTALLED LATER
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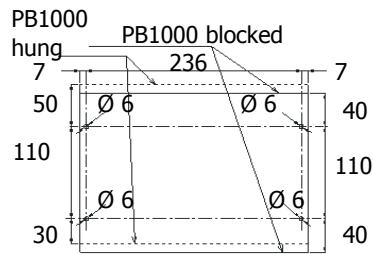
**PB1000 OVERALL DIMENSIONS (mm)**

**FRONT VIEW**

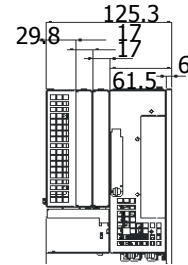


Peso 1.3kg

**REAR VIEW**



**SIDE VIEW**





# PB410/H1

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

PB410/H1 BASIC SYSTEM	
PB410/H1 basic configuration	Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC
<b>CPU</b>	Intel Celeron · 1.2 GHz, 100MHz front side bus, 256KB cache · socket 370
	Intel Pentium III · 1.26 GHz, 133MHz front side bus, 512KB cache · socket 370
	Intel Pentium III · 1.4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133 Low profile
	256 MB · SDRAM , 1 DIMM module PC133 Low profile
	512 MB · SDRAM , 1 DIMM module PC133 Low profile
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging
	18÷36V/DC · 140W, autoranging
<b>OPTIONS</b>	Disk On Module (DOM) card, 44 pin · internal access
	Compact Flash Type II card · internal access
	Additional RS 232/422/485 serial port (4th) · DB15 male connector
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

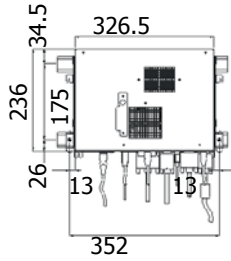
PB410/H1 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	DIN rail mount
Overall dimensions & weight	See details on the rear
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters



# PB410/H1

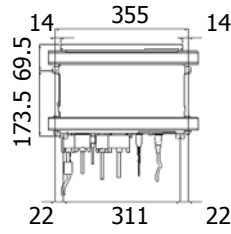
**PB410/H1 OVERALL DIMENSIONS (mm)**

**FRONT VIEW**

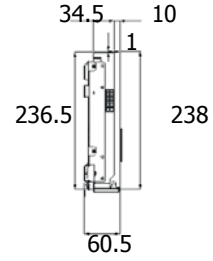


weight 4.8kg

**REAR VIEW**



**SIDE VIEW**





# PB410/H2

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

PB410/H2 BASIC SYSTEM	
PB410/H2 basic configuration	Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC
<b>CPU</b>	Intel Celeron · 1.2 GHz, 100MHz front side bus, 256KB cache · socket 370
	Intel Pentium III · 1.26 GHz, 133MHz front side bus, 512KB cache · socket 370
	Intel Pentium III · 1.4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133
	256 MB · SDRAM , 1 DIMM module PC133
	512 MB · SDRAM , 1 DIMM module PC133
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging
	18÷36V/DC · 140W, autoranging
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB · H=1" · drive's front color = white > <b>see annotation 1</b>
	Kit CD-ROM E-IDE 24x Slim · H=0.5" · drive's front color = black
	Kit COMBO DVD-ROM · E-IDE 24x / CD-RW 24x10x24x Slim · H=0.5" · drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim · H=1" · drive's front color = black
<b>OPTIONS</b>	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim · H=1" · drive's front color = black
	Disk On Module (DOM) card, 44 pin · internal access
	Compact Flash Type II card · internal access
	Additional RS 232/422/485 serial port (4th) · DB15 male connector
	Extractable drawer for 2.5" HDD E-IDE ATA · supplied without HDD
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA · 5400rpm, 8 MB buffer
Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA · 5400rpm, 8 MB buffer	
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

### PB410/H2 BASIC SYSTEM TECHNICAL SPECIFICATIONS

Case	DIN rail mount
Overall dimensions & weight	See details on the rear
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	Not available
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

### ANNOTATIONS

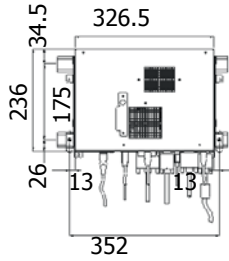
**1:** Standard height (1") FDD can be installed as an alternative to the slim units only



# PB410/H2

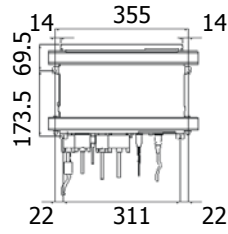
**PB410/H2 OVERALL DIMENSIONS (mm)**

**FRONT VIEW**

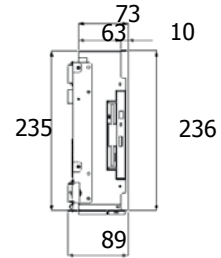


weight 6kg

**REAR VIEW**



**SIDE VIEW**




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

PB410/H3 BASIC SYSTEM	
PB410/H3 basic configuration	Intel Celeron 1,2GHz · 128 MB RAM · kit HDD 40GB · No FDD · power supply 220V/AC
<b>CPU</b>	Intel Celeron · 1.2 GHz, 100MHz front side bus, 256KB cache · socket 370
	Intel Pentium III · 1.26 GHz, 133MHz front side bus, 512KB cache · socket 370
	Intel Pentium III · 1.4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133
	256 MB · SDRAM , 1 DIMM module PC133
	512 MB · SDRAM , 1 DIMM module PC133
<b>HARD DISK</b>	No Hard Disk kit
	Kit HDD 40GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 60GB 2.5" E-IDE ATA · 5400rpm, 8 MB buffer
	Kit HDD 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer
<b>POWER SUPPLY</b>	110÷220V/AC · 140W, autoranging
	18÷36V/DC · 140W, autoranging
<b>FDD/CD/DVD REAR ACCESS</b>	Kit FDD 3,5" 1,44 MB · H=1" · drive's front color = white > <b>see annotation 1</b>
	Kit CD-ROM E-IDE 24x Slim · H=0.5" · drive's front color = black
	Kit COMBO DVD-ROM · E-IDE 24x / CD-RW 24x10x24x Slim · H=0.5" · drive's front color = black
	Kit FDD 3,5" 1,44 MB Slim+CD-ROM E-IDE 24x Slim · H=1" · drive's front color = black
<b>OPTIONS</b>	Kit FDD 3,5" 1,44 MB Slim+COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x Slim · H=1" · drive's front color = black
	Disk On Module (DOM) card, 44 pin · internal access
	Compact Flash Type II card · internal access
	Additional RS 232/422/485 serial port (4th) · DB15 male connector
	Extractable drawer for 2.5" HDD E-IDE ATA · supplied without HDD
	Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 40GB E-IDE ATA · 5400rpm, 8 MB buffer
Extractable drawer for 2.5" HDD E-IDE ATA + 2.5" HDD 60GB E-IDE ATA · 5400rpm, 8 MB buffer	
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

**PB410/H3 BASIC SYSTEM TECHNICAL SPECIFICATIONS**

Case	DIN rail mount
Overall dimensions & weight	See details on the rear
Motherboard	"All-In-One" type · ASEM 823 · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port) and LVDS / TTL digital interface for TFT LCD (internal socket) Simul Scan
Video RAM (dedicated)	32 MB
RAM memory sockets	1 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133 low profile
Minimum system memory	128 MB
Maximum system memory	512 MB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	DOM 44pin card predisposition, Compact Flash Type II card predisposition, additional serial port card (4th) predisposition (see <i>OPTIONS</i> )
Bus expansions slots	2 x PCI
Rear access interfaces	2 x PS/2 (K/M) · 1 x parallel SPP-EPP-ECP bidir. DB25 male connector · 1 x Ethernet 10/100Mbit RJ45 connector · 2 x USB (1 x 1.1, 1 x 2.0) · 1 x VGA
Rear access serial interfaces	2 x RS232 DB9 male connector · 1 x RS232/422/485 DB15 male connector, software-configurable
Environmental specifications	Operating temperature: 0 ÷ +50°C without HDD, 0 ÷ +45°C with HDD · storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

**ANNOTATIONS**

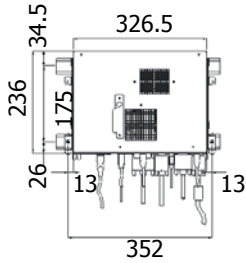
**1:** Standard height (1") FDD can be installed as an alternative to the slim units only



# PB410/H3

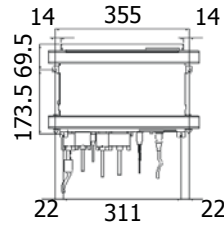
**PB410/H3 OVERALL DIMENSIONS (mm)**

**FRONT VIEW**

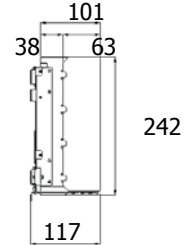


weight 6.4kg

**REAR VIEW**



**SIDE VIEW**




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

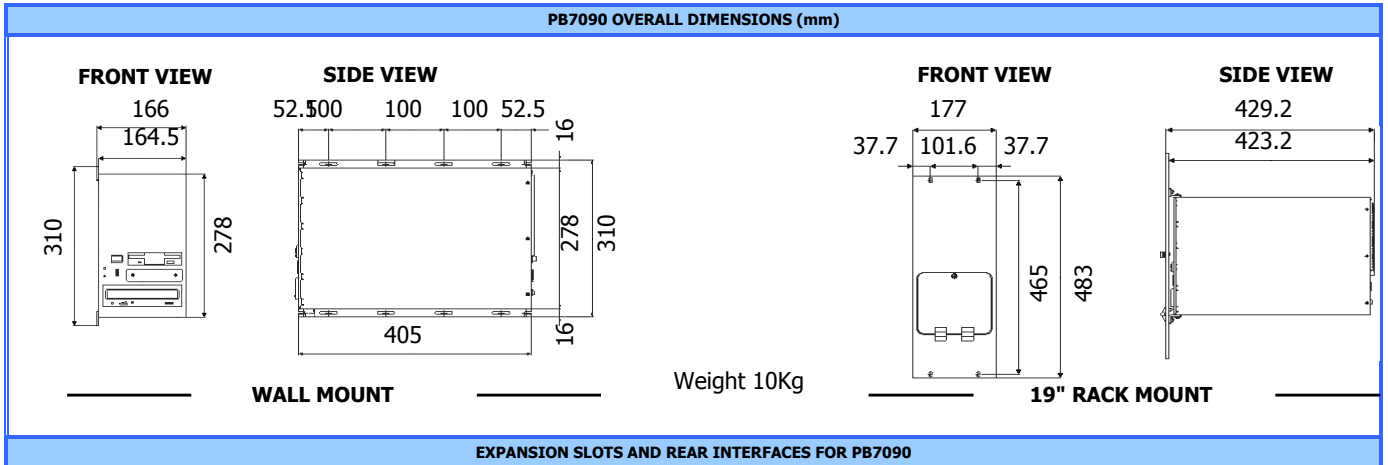
PB7090 BASIC SYSTEM	
PB7090 basic configuration	Intel Celeron 1,2GHz · 128 MB RAM · HDD 40GB · FDD · power supply 220V/AC · Backplane 1 x ISA · 1 x PICMG · 4 x PCI
<b>CPU</b>	Intel Celeron · 1,2 GHz, 100MHz front side bus, 256KB cache · socket 370 Intel Pentium III · 1,26 GHz, 133MHz front side bus, 512KB cache · socket 370 Intel Pentium III · 1,4 GHz, 133MHz front side bus, 512KB cache · socket 370
<b>RAM MEMORY</b>	128 MB · SDRAM , 1 DIMM module PC133 256 MB · SDRAM , 1 DIMM module PC133 512 MB · SDRAM , 1 DIMM module PC133 1GB · SDRAM , 2 DIMM modules DDR400 512MB each
<b>HARD DISK</b>	No Hard Disk 40GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer 80GB 3,5" E-IDE ATA · 7200rpm, 8 MB buffer 40GB 2,5" E-IDE ATA · 5400rpm, 8 MB buffer > <b>see annotation 1</b> 60GB 2,5" E-IDE ATA · 5400rpm, 8 MB buffer > <b>see annotation 1</b>
<b>FLOPPY DISK</b>	Floppy Disk Drive 3,5" 1,44MB · drive's front color = white No Floppy Disk Drive
<b>BACKPLANE</b>	4 x PCI · 1 x ISA · 1 x PICMG > <b>see annotation 2</b> 3 x PCI · 2 x ISA · 1 x PCI/PICMG shared · 1 x PICMG > <b>see annotation 2</b>
<b>CD/DVD DRIVES</b>	CD-ROM E-IDE 52x · H=1,65" · drive's front color = white CD-RW E-IDE 52x24x52x · H=1,65" · drive's front color = white COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x · H=1,65" · drive's front color = white
<b>OPTIONS</b>	Extractable drawer 3.5" for 2,5" HDD > <b>vedi nota 3</b> Rack mounting (19") mechanical arrangement kit Compact Flash Type I reader kit Warranty extension to 18 months + 1 month exemption on basic system and its variants Warranty extension to 24 months + 1 month exemption on basic system and its variants

PB7090 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	Wallmount/desktop/19" rack mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP42 > <b>see annotation 4</b>
Drive bays	1 x 5,25" h=1,65" · 1 x 3,5" h=1"
Power supply	110÷220V/AC · 250W, autoranging
Motherboard	Passivo bus type, ASEM 801-TM · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port)
Video RAM (dedicated)	32 MB
RAM memory sockets	2 x DIMM 168 pin module
RAM memory	SDRAM DIMM type · PC133
Minimum system memory	128 MB
Maximum system memory	1GB
Mass storage interfaces	1 x FDD · 2 x E-IDE ATA (Master, Slave) integrated on-board
On-board options predisposition	1 x socket NOVRAM / Disk On Chip (DOC)
Bus expansions slots	1 x ISA · 1 x PICMG · 4 x PCI > <b>see annotation 2</b>
Front access interfaces	1 x USB 1.1
Rear Interfaces on MB	2 x PS/2 (K/M) · 1 x Ethernet 10/100 Mbit RJ45 connector · 1 x VGA
Rear interfaces (not on MB)	1 x parallel SPP, EPP, ECP bidirectional DB25 connector · 1 x RS232 DB9 connector · 2 x RS232/422/485 DB15 connector, SW-configurable · 1 x RS232/422/485 DB25 connector, SW-configurable · 1 x Ethernet 10/100 Mbit RJ45 connector > <b>see annotation 5</b>
Environmental specifications	Operating temperature: 5 ÷ +40°C · Storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

ANNOTATIONS
<b>1:</b> 2,5"-Hard Disk Drive can be ordered along with 3.5" extractable drawer option only
<b>2:</b> See rear for details on free expansion slots
<b>3:</b> Extractable drawer supplied without Hard Disk.
<b>4:</b> Frontal protection is referred to 19"-rack mounting version only
<b>5:</b> Ethernet port is backplane-integrated and, once enabled, uses one PCI slot's resources (PCI slot is no longer available)



# PB7090



**EXPANSION SLOTS AND REAR INTERFACES FOR PB7090**

1	BACKPLANE	1 x ISA • 1 x PICMG • 4 x PCI	ASEM NATIVE CONFIGURATION
	1 x ISA	AVAILABLE, add-on card can be full size format	
	1 x PICMG	HOSTS MB ASEM 801-TM	
	1 x PCI	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3b</b>	
	1 x PCI	AVAILABLE, add-on card can be full size format	
	1 x PCI	AVAILABLE, add-on card can be half size format	
	1 x PCI	AVAILABLE, add-on card can be half size format	
2	I/F ON MB	1 x VGA • 1 x LAN RJ45 • 2 x PS/2	
3a	I/F ON BACKPLATE	1 x USB • 2 x RS/232/422/485 DB15 > <b>see annotation 1</b>	
3b	I/F ON BACKPLATE	1 x Parallel DB25 > <b>see annotation 2</b>	
4	I/F ON CABINET	1 x RS/232 DB9 • 1 x RS/232/422/485 DB25 • 1 x LAN RJ45 > <b>see annotation 3</b>	

ANNOTATIONS	
1:	This backplate DOES NOT have a corresponding slot on backplane
2:	If ports-hosting backplate is removed, a full size add-on card can be installed to the slot
3:	RJ45 LAN port is backplane-integrated, and can be used as an alternative to one of available PCI slots ONLY (shared resources)




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

PR9030 BASIC SYSTEM	
PR9030 basic configuration	Intel Celeron D 2,8GHz • 256 MB RAM • HDD 40GB 3,5" 1,44MB • FDD • power supply 220V/AC • Backplane 4 x PCI • 8 x ISA • 2 x PICMG
<b>CPU</b>	Intel Celeron • 2,8 GHz, 533MHz front side bus, 256KB cache • socket 478 Intel Pentium 4 • 3 GHz, 800MHz front side bus, 1 MB cache • socket 478
<b>RAM MEMORY</b>	256 MB • SDRAM , 1 DIMM module DDR400 512 MB • SDRAM , 1 DIMM module DDR400 1GB • SDRAM , 1 DIMM module DDR400 2GB • SDRAM , 2 DIMM modules DDR400 1GB each
<b>HARD DISK</b>	No Hard Disk HDD 40GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b> HDD 80GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b> HDD 80GB 3,5" SATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b> HDD 160GB 3,5" SATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
<b>FLOPPY DISK</b>	Floppy Disk Drive 3,5" 1,44MB • drive's front color = white No Floppy Disk Drive
<b>POWER SUPPLY</b>	110÷220V/AC • 300W, autoranging • with outlet 90÷265V/AC • 2 x 320W, autoranging • redundant
<b>BACKPLANE</b>	4 x PCI • 8 x ISA • 2 x PICMG > <b>see annotation 2</b> 7 x PCI • 5 x ISA • 2 x PICMG > <b>see annotation 2</b>
<b>CD/DVD DRIVES</b>	CD-ROM E-IDE 52x • H=1,65" • drive's front color = black CD-RW E-IDE 52x24x52x • H=1,65" • drive's front color = black COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x • H=1,65" • drive's front color = black
<b>OPTIONS</b>	Extractable drawer for 3,5" HDD • on 5,25" bay Warranty extension to 18 months + 1 month exemption on basic system and its variants Warranty extension to 24 months + 1 month exemption on basic system and its variants

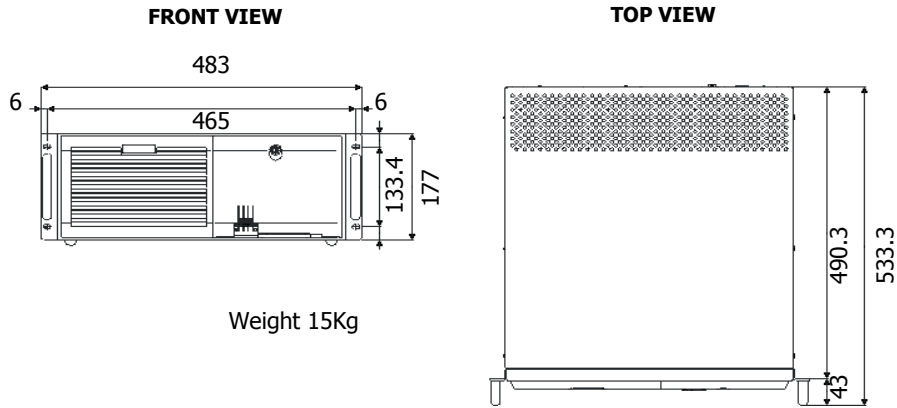
PR9030 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	19" rack mount
Overall dimensions & weight	See details on the rear
Frontal protection	IP42
Drive bays	3 x 5,25" h=1,65" (one always fits HDD on the rear) • 1 x 3,5" h=1"
Motherboard	SBC ROCKY-4786EV • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port)
Video RAM	up to 16 MB (shared)
RAM memory sockets	2 x DIMM 184 pin module
RAM memory	SDRAM DIMM type • DDR333/400
Minimum system memory	256 MB
Maximum system memory	2GB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board • 2 x SATA
On-board options predisposition	1 x Compact Flash Type I/II slot
Bus expansions slots	4 x PCI • 8 x ISA • 2 x PICMG > <b>see annotation 2</b>
Front access interfaces	1 x USB 2.0 • 1 x PS/2 • 1 x IrDA
Rear Interfaces on MB	1 x PS/2 (K/M) • 1 x Ethernet 10/100 Mbit RJ45 connector • 1 x VGA
Rear interfaces (not on MB)	1 x parallel SPP, EPP, ECP bidirectional DB25 male connector • 2 x RS232 DB9 male connector • 2 x USB 2.0
Environmental specifications	Operating temperature: 0 ÷ +50°C • Storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

ANNOTATIONS	
<b>1:</b>	On demand, multi HDD configurations (E-IDE ATA and SATA) are available, also with hot-swap extractable drawer
<b>2:</b>	See rear for details on free expansion slots



# PR9030

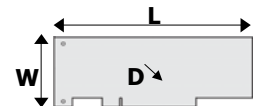
## PR9030 OVERALL DIMENSIONS (mm)



## EXPANSION SLOTS AND REAR INTERFACES FOR PR9030

1	BACKPLANE	8 x ISA • 2 x PICMG • 4 x PCI	ASEM NATIVE CONFIGURATION
	8 x ISA	AVAILABLE, add-on card(s) can be full size format	
	1 x PICMG	HOSTS MB Rocky-4786EV	
	1 x PICMG	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3a)	
	1 x PCI	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3b)	
	1 x PCI	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3c)	
	2 x PCI	AVAILABLE, add-on card(s) can be up to 200mm long	
2	I/F ON MB	1 x VGA • 1 x LAN RJ45 • 2 x PS/2	
3a	I/F ON BACKPLATE	2 x USB > see annotation 1	
3b	I/F ON BACKPLATE	2 x RS/232 DB9 • 1 x USB > see annotation 2	
3c	I/F ON BACKPLATE	1 x Parallel DB25 > see annotation 3	
4	I/F ON CABINET	-	

ANNOTATIONS	
1:	this backplate corresponds to 1 PICMG slot
2:	if ports-hosting backplate is removed, a add-on card 200 x 10 (L x D) mm max can be installed to the slot
3:	if ports-hosting backplate is removed, a add-on card 200 x 10 (L x D) mm max can be installed to the slot



1	BACKPLANE	5 x ISA • 2 x PICMG • 7 x PCI	ASEM NATIVE CONFIGURATION
	3 x ISA	AVAILABLE, add-on card(s) can be full size format	
	1 x PICMG	HOSTS MB Rocky-4786EV	
	1 x ISA	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3a)	
	1 x ISA	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3b)	
	1 x PICMG	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3c)	
	5 x PCI	AVAILABLE, add-on card(s) can be full size format	
	2 x PCI	AVAILABLE, add-on card(s) can be half size format	
2	I/F ON MB	1 x VGA • 1 x LAN RJ45 • 2 x PS/2	
3a	I/F ON BACKPLATE	2 x USB > see annotation 1	
3b	I/F ON BACKPLATE	2 x RS/232 DB9 • 1 x USB > see annotation 2	
3c	I/F ON BACKPLATE	1 x Parallel DB25 > see annotation 3	
4	I/F ON CABINET	-	

ANNOTATIONS	
1:	if ports-hosting backplate is removed, a half size format add-on card H=90mm max can be installed to the slot
2:	if ports-hosting backplate is removed, a half size format add-on card H=90mm max can be installed to the slot
3:	this backplate corresponds to 1 PICMG slot





# PR4030

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

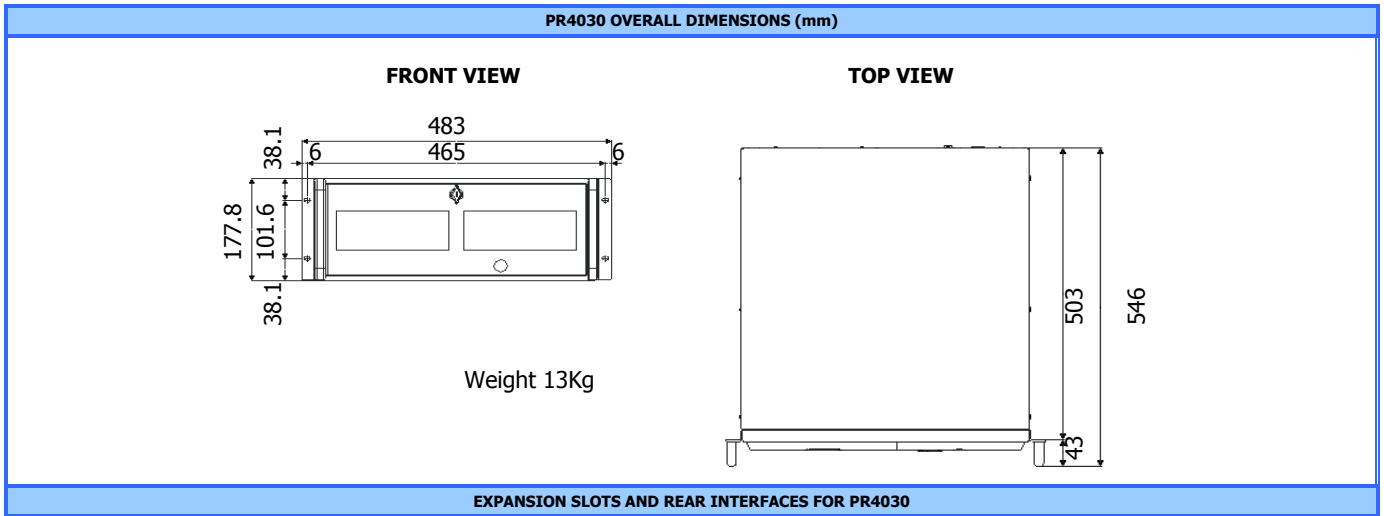
PR4030 BASIC SYSTEM	
PR4030 basic configuration	Intel Celeron D 2,8GHz • 256 MB RAM • HDD 40GB 3,5" 1,44MB • FDD • power supply 220V/AC • Backplane 4 x PCI • 8 x ISA • 2 x PICMG
<b>CPU</b>	Intel Celeron • 2,8 GHz, 533MHz front side bus, 256KB cache • socket 478
	Intel Pentium 4 • 3 GHz, 800MHz front side bus, 1 MB cache • socket 478
<b>RAM MEMORY</b>	256 MB • SDRAM , 1 DIMM module DDR400
	512 MB • SDRAM , 1 DIMM module DDR400
	1GB • SDRAM , 1 DIMM module DDR400
	2GB • SDRAM , 2 DIMM modules DDR400 1GB each
<b>HARD DISK</b>	No Hard Disk
	HDD 40GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	HDD 80GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	HDD 80GB 3,5" SATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
<b>FLOPPY DISK</b>	HDD 160GB 3,5" SATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	Floppy Disk Drive 3,5" 1,44MB • drive's front color = white
<b>POWER SUPPLY</b>	No Floppy Disk Drive
	110÷220V/AC • 300W, autoranging • with outlet
<b>BACKPLANE</b>	90÷265V/AC • 2 x 320W, autoranging • redundant
	4 x PCI • 8 x ISA • 2 x PICMG > <b>see annotation 2</b>
<b>CD/DVD DRIVES</b>	7 x PCI • 5 x ISA • 2 x PICMG > <b>see annotation 2</b>
	CD-ROM E-IDE 52x • H=1,65" • drive's front color = black
	CD-RW E-IDE 52x24x52x • H=1,65" • drive's front color = black
<b>OPTIONS</b>	COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x • H=1,65" • drive's front color = black
	Extractable drawer for 3,5" HDD • on 5,25" bay
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

PR4030 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	19" rack mount
Overall dimensions & weight	See details on the rear
Drive bays	3 x 5,25" h=1,65" (one always fits HDD on the rear) • 1 x 3,5" h=1"
Motherboard	SBC ROCKY-4786EV • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port)
Video RAM	up to 16 MB (shared)
RAM memory sockets	2 x DIMM 184 pin module
RAM memory	SDRAM DIMM type • DDR333/400
Minimum system memory	256 MB
Maximum system memory	2GB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board • 2 x SATA
On-board options predisposition	1 x Compact Flash Type I/II slot
Bus expansions slots	4 x PCI • 8 x ISA • 2 x PICMG > <b>see annotation 2</b>
Front access interfaces	2 x USB 2.0
Rear Interfaces on MB	1 x PS/2 (K/M) • 1 x Ethernet 10/100 Mbit RJ45 connector • 1 x VGA
Rear interfaces (not on MB)	1 x parallel SPP, EPP, ECP bidirectional DB25 male connector • 2 x RS232 DB9 male connector • 2 x USB 2.0
Environmental specifications	Operating temperature: 0 ÷ +45°C • Storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

ANNOTATIONS
<b>1:</b> On demand, multi HDD configurations (E-IDE ATA and SATA) are available, also with hot-swap extractable drawer
<b>2:</b> See rear for details on free expansion slots

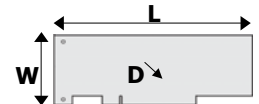


# PR4030



<b>1</b>	<b>BACKPLANE</b>	<b>8 x ISA • 2 x PICMG • 4 x PCI</b>	<b>ASEM NATIVE CONFIGURATION</b>
	<b>8 x ISA</b>	AVAILABLE, add-on card(s) can be full size format	
	<b>1 x PICMG</b>	HOSTS MB Rocky-4786EV	
	<b>1 x PICMG</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3a</b> )	
	<b>1 x PCI</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3b</b> )	
	<b>1 x PCI</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3c</b> )	
	<b>2 x PCI</b>	AVAILABLE, add-on card(s) can be up to 200mm long	
<b>2</b>	<b>I/F ON MB</b>	1 x VGA • 1 x LAN RJ45 • 2 x PS/2	
<b>3a</b>	<b>I/F ON BACKPLATE</b>	2 x USB > <b>see annotation 1</b>	
<b>3b</b>	<b>I/F ON BACKPLATE</b>	2 x RS/232 DB9 • 1 x USB > <b>see annotation 2</b>	
<b>3c</b>	<b>I/F ON BACKPLATE</b>	1 x Parallel DB25 > <b>see annotation 3</b>	
<b>4</b>	<b>I/F ON CABINET</b>	-	

ANNOTATIONS	
<b>1:</b>	this backplate corresponds to 1 PICMG slot
<b>2:</b>	if ports-hosting backplate is removed, a add-on card 200 x 10 (L x D) mm max can be installed to the slot
<b>3:</b>	if ports-hosting backplate is removed, a add-on card 200 x 10 (L x D) mm max can be installed to the slot



<b>1</b>	<b>BACKPLANE</b>	<b>5 x ISA • 2 x PICMG • 7 x PCI</b>	<b>ASEM NATIVE CONFIGURATION</b>
	<b>3 x ISA</b>	AVAILABLE, add-on card(s) can be full size format	
	<b>1 x PICMG</b>	HOSTS MB Rocky-4786EV	
	<b>1 x ISA</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3a</b> )	
	<b>1 x ISA</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3b</b> )	
	<b>1 x PICMG</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3c</b> )	
	<b>5 x PCI</b>	AVAILABLE, add-on card(s) can be full size format	
	<b>2 x PCI</b>	AVAILABLE, add-on card(s) can be half size format	
<b>2</b>	<b>I/F ON MB</b>	1 x VGA • 1 x LAN RJ45 • 2 x PS/2	
<b>3a</b>	<b>I/F ON BACKPLATE</b>	2 x USB > <b>see annotation 1</b>	
<b>3b</b>	<b>I/F ON BACKPLATE</b>	2 x RS/232 DB9 • 1 x USB > <b>see annotation 2</b>	
<b>3c</b>	<b>I/F ON BACKPLATE</b>	1 x Parallel DB25 > <b>see annotation 3</b>	
<b>4</b>	<b>I/F ON CABINET</b>	-	

ANNOTATIONS	
<b>1:</b>	if ports-hosting backplate is removed, a half size format add-on card H=90mm max can be installed to the slot
<b>2:</b>	if ports-hosting backplate is removed, a half size format add-on card H=90mm max can be installed to the slot
<b>3:</b>	this backplate corresponds to 1 PICMG slot




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

PR4040 BASIC SYSTEM	
PR4040 basic configuration	Intel Celeron D 2,8GHz • 256 MB RAM • HDD 40GB 3,5" 1,44MB • FDD • power supply 220V/AC
<b>CPU</b>	Intel Celeron • 2,8 GHz, 533MHz front side bus, 256KB cache • socket 478
	Intel Pentium 4 • 3 GHz, 800MHz front side bus, 1 MB cache • socket 478
<b>RAM MEMORY</b>	256 MB • SDRAM , 1 DIMM module DDR400
	512 MB • SDRAM , 1 DIMM module DDR400
	1GB • SDRAM , 1 DIMM module DDR400
	2GB • SDRAM , 2 DIMM modules DDR400 1GB each
<b>HARD DISK</b>	No Hard Disk
	HDD 40GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	HDD 80GB 3,5" E-IDE ATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	HDD 80GB 3,5" SATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	HDD 160GB 3,5" SATA • 7200rpm, 8 MB buffer > <b>see annotation 1</b>
<b>FLOPPY DISK</b>	Floppy Disk Drive 3,5" 1,44MB • drive's front color = white
	No Floppy Disk Drive
<b>POWER SUPPLY</b>	110÷220V/AC • 300W, autoranging • with outlet
	90÷265V/AC • 2 x 320W, autoranging • redundant
<b>CD/DVD DRIVES</b>	CD-ROM E-IDE 52x • H=1,65" • drive's front color = black
	CD-RW E-IDE 52x24x52x • H=1,65" • drive's front color = black
	COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x • H=1,65" • drive's front color = black
<b>OPTIONS</b>	Extractable drawer for 3,5" HDD • on 5,25" bay
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

**PR4040 BASIC SYSTEM TECHNICAL SPECIFICATIONS**

Case	19" rack mount
Overall dimensions & weight	See details on the rear
Drive bays	3 x 5,25" h=1,65" • 1 x 3,5" h=1"
Motherboard	ATX format • SBC ICPBM-8650 (IEI) • with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	Integrated on-board, VGA standard analog interface (external port)
Video RAM	up to 16 MB (shared)
RAM memory sockets	2 x DIMM 184 pin module
RAM memory	SDRAM DIMM type • DDR400
Minimum system memory	256 MB
Maximum system memory	2GB
Mass storage interfaces	1 x FDD • 2 x E-IDE ATA (Master, Slave) integrated on-board • 2 x SATA
On-board options predisposition	1 x Compact Flash Type I/II slot
Bus expansions slots	3 x PCI full size • 1 x AGP 8x4x > <b>see annotation 2</b>
Front access interfaces	2 x USB 2.0
Rear Interfaces on MB	2 x PS/2 (K/M) • 1 x Ethernet 10/100 Mbit RJ45 connector • 1 x VGA • 1 x parallel SPP, EPP, ECP bidirectional DB25 connector • 1 x RS232 DB9 connector • 4 x USB 2.0
Rear interfaces (not on MB)	5 x RS232 DB9 connector
Environmental specifications	Operating temperature: 0 ÷ +40°C • Storage temperature: -20 ÷ +60°C • humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

**ANNOTATIONS**

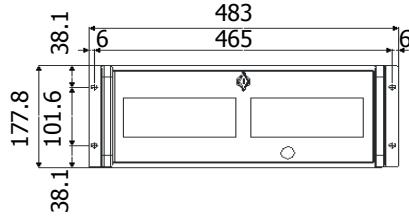
- 1:** On demand, multi HDD configurations (E-IDE ATA and SATA) are available, also with hot-swap extractable drawer
- 2:** See rear for details on free expansion slots



# PR4040

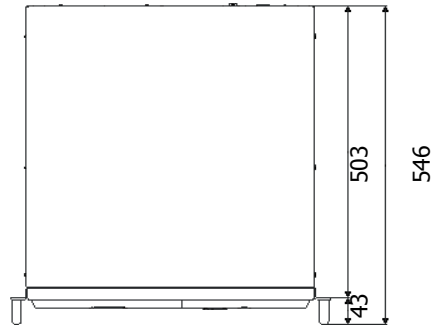
## PR4040 OVERALL DIMENSIONS (mm)

### FRONT VIEW



Weight 13Kg

### TOP VIEW

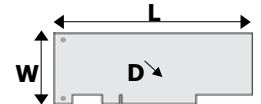


## EXPANSION SLOTS AND REAR INTERFACES FOR PR4040

1	MOTHERBOARD ATX	1 x ISA • 1 x ISA/PCI condiviso • 4 x PCI • 1 x ATX 8x4x	ASEM NATIVE CONFIGURATION
	1 x ISA	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3a)	
	1 x ISA/PCI shared	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3b)	
	1 x PCI	NOT AVAILABLE (its matching backplate is occupied by interfaces), > see item 3c)	
	3 x PCI	AVAILABLE, add-on card(s) can be full size format	
	1 x ATX 8x4x	AVAILABLE, add-on card can be full size format	
2	I/F ON MB	1 x RS/232 • 1 x Parallel DB25 • 4 x USB • 1 x VGA • 1 x LAN RJ45 • 2 x PS/2	
3a	I/F ON BACKPLATE	1 x RS/232 DB9 > see annotation 1	
3b	I/F ON BACKPLATE	2 x RS/232 DB9 > see annotation 2	
3c	I/F ON BACKPLATE	2 x RS/232 DB9 > see annotation 3	
4	I/F ON CABINET	-	

### ANNOTATIONS

- 1: if ports-hosting backplate is removed, a full size format add-on card can be installed to the slot
- 2: if ports-hosting backplate is removed, a full size format add-on card can be installed to the slot
- 3: if ports-hosting backplate is removed, a full size format add-on card can be installed to the slot




**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

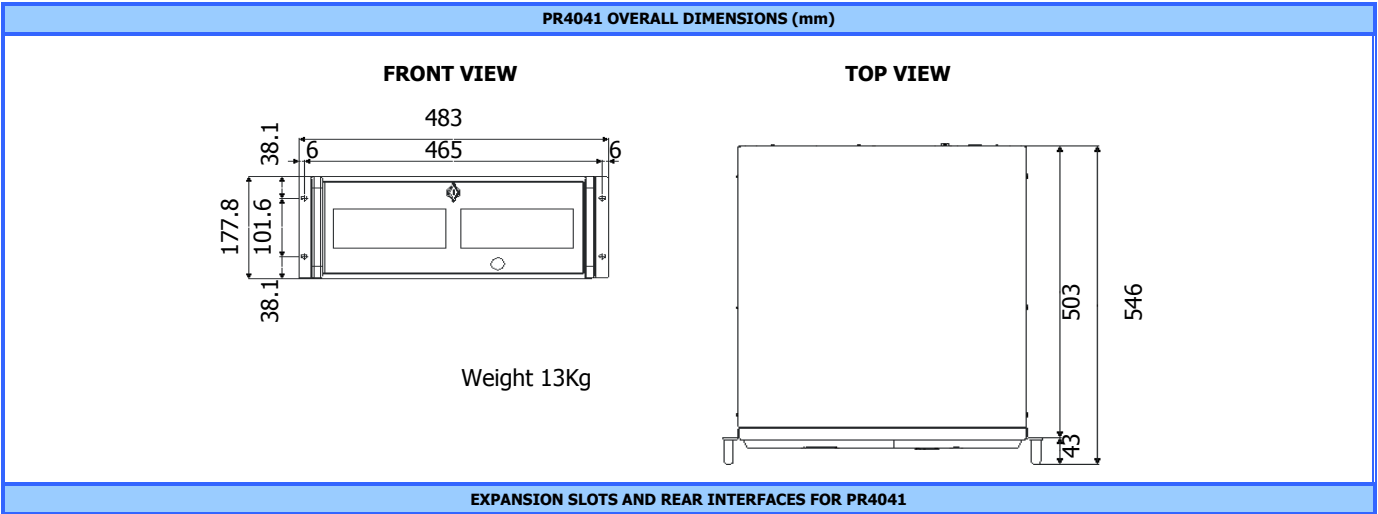
PR4041 BASIC SYSTEM	
PR4041 basic configuration	Intel Pentium 4 3GHz · 512 MB RAM · HDD 80GB SATA · FDD · power supply 220V/AC
<b>CPU</b>	Intel Celeron D · 2,8 GHz, 533MHz front side bus, 256KB cache · socket 775
	Intel Pentium 4 · 3 GHz, 800MHz front side bus, 2 MB cache · socket 775
	Intel Pentium 4 · 3,2 GHz, 800MHz front side bus, 2 MB cache · socket 775
	Intel Pentium 4 · 3,4 GHz, 800MHz front side bus, 2 MB cache · socket 775
	Intel Pentium 4 · 3,6 GHz, 800MHz front side bus, 2 MB cache · socket 775
	Intel Pentium D · 3 GHz, 800MHz front side bus, 2x1 MB cache · socket 775
	Intel Pentium D · 3,2 GHz, 800MHz front side bus, 2x1 MB cache · socket 775
<b>RAM MEMORY</b>	512 MB · DDR2 533 , 1 DIMM module PC4300
	1GB · DDR2 533 , 2 DIMM modules PC4300 512MB each
	2GB · DDR2 533 , 2 DIMM modules PC4300 1GB each
<b>HARD DISK</b>	No Hard Disk
	HDD 80GB 3,5" SATA · 7200rpm, 8 MB buffer > <b>see annotation 1</b>
	HDD 160GB 3,5" SATA · 7200rpm, 8 MB buffer > <b>see annotation 1</b>
<b>FLOPPY DISK</b>	Floppy Disk Drive 3,5" 1,44MB · drive's front color = white
	No Floppy Disk Drive
<b>POWER SUPPLY</b>	115÷230V/AC · 350W, autoranging · with outlet
	90÷265V/AC · 2 x 500W, autoranging · redundant
<b>CD/DVD DRIVES</b>	CD-ROM E-IDE 52x · H=1,65" · drive's front color = black
	CD-RW E-IDE 52x24x52x · H=1,65" · drive's front color = black
	COMBO E-IDE DVD-ROM 24x / CD-RW 24x10x24x · H=1,65" · drive's front color = black
	DVD-ROM 16x48x · H=1,65" · drive's front color = black
	DVD-RW 16x8x48x32x · H=1,65" · drive's front color = black
<b>OPTIONS</b>	Extractable drawer for 3,5" HDD · on 5,25" bay
	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

PR4041 BASIC SYSTEM TECHNICAL SPECIFICATIONS	
Case	19" rack mount
Overall dimensions & weight	See details on the rear
Drive bays	3 x 5,25" h=1,65" · 1 x 3,5" h=1"
Motherboard	ATX format · SBC P5WD2 (ASUS) · with watchdog timer, hardware system for temperature and voltage board diagnostics
Video controller	PCI-Express graphics card (ASUS Extreme AX300SE) VGA standard analog interface (external port), digital DVI-D interface (external port) · memory clock 592MHz
Video RAM	128 MB
RAM memory sockets	4 x DIMM 240 pin module
RAM memory	DDR2 DIMM type · PC4300
Minimum system memory	512 MB
Maximum system memory	2GB
Mass storage interfaces	1 x FDD · 3 x E-IDE ATA (Master, Slave) · 4 x SATA 2 integrated on-board
Bus expansions slots	2 x PCI half size · 1 x PCI-E x1 half size · 1 x Universal PCI-E (max x4 mode) half size > <b>vedi nota 2</b>
Front access interfaces	2 x USB 2.0
Rear Interfaces on MB	2 x PS/2 (K/M) · 1 x Ethernet 10/100/1000 Mbit connector RJ45 · 1 x parallel SPP, EPP, ECP bidirectional, DB25 male connector · 4 x USB 2.0
Rear interfaces (not on MB)	1 x RS232 DB9 male connector · 1 x VGA connector DB15 · 1 x DVI-D
Environmental specifications	Operating temperature: 0 ÷ +40°C · Storage temperature: -20 ÷ +60°C · humidity: 80% (non-condensing)
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters

NOTE APPLICATIVE
<b>1:</b> On demand, multi HDD configurations (E-IDE ATA, SATA, SCSI with RAID controller) are available, also with hot-swap extractable drawer
<b>2:</b> See rear for details on free expansion slots

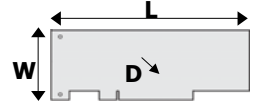


# PR4041



<b>1</b>	<b>MOTHERBOARD ATX</b>	<b>3 x PCI • 1 x PCI-E x16 • • 1 x Universal PCI-E (x4 max) • 1 x PCI-E x1</b>	<b>ASEM NATIVE CONFIGURATION</b>
	<b>1 x PCI</b>	NOT AVAILABLE (its matching backplate is occupied by interfaces), > <b>see item 3a)</b>	
	<b>1 x PCI-E x1</b>	AVAILABLE, add-on card(s) can be half size format	
	<b>1 x PCI-E Universal</b>	AVAILABLE, add-on card(s) can be half size format	
	<b>2 x PCI</b>	AVAILABLE, add-on card(s) can be half size format	
	<b>1 x PCI-E x16</b>	NOT AVAILABLE (the corresponding backplate hosts interfaces), > <b>see item 3b)</b>	
<b>2</b>	<b>I/F ON MB</b>	1 x Parallel DB25 • 4 x USB • 1 x LAN RJ45 • 2 x PS/2	
<b>3a</b>	<b>I/F ON BACKPLATE</b>	1 x RS/232 DB9 > <b>see annotation 1</b>	
<b>3b</b>	<b>I/F ON BACKPLATE</b>	1 x VGA DB15 • 1 x DVI-D > <b>see annotation 2</b>	
<b>4</b>	<b>I/F ON CABINET</b>	-	

ANNOTATIONS	
<b>1:</b>	if ports-hosting backplate is removed, a half size format add-on card can be installed to the slot
<b>2:</b>	the above mentioned ports are installed on the graphics card installed to the PCI-E x16 slot





**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

<b>MP12 MONITOR</b>	
MP12 basic configuration - LCD TFT SVGA 800x600 16M colors • No Touch • power supply 220V/AC • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 12.1" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>POWER SUPPLY</b>	90±264V/AC • 36W • autoranging
	18±36V/DC • 30W • autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

<b>MP15 MONITOR</b>	
MP15 basic configuration - LCD TFT XGA 1024x768 16M colorS • No Touch • power supply 220V/AC • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 15" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 15" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>POWER SUPPLY</b>	90±264V/AC • 36W • autoranging
	18±36V/DC • 30W • autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

<b>MP15-HL (HIGH LUMINANCE) MONITOR</b>	
MP15-HL basic configuration - LCD TFT XGA 1024x768 16M colorS • No Touch • power supply 220V/AC • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 15" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 15" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>POWER SUPPLY</b>	90±264V/AC • 36W • autoranging
	18±36V/DC • 30W • autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

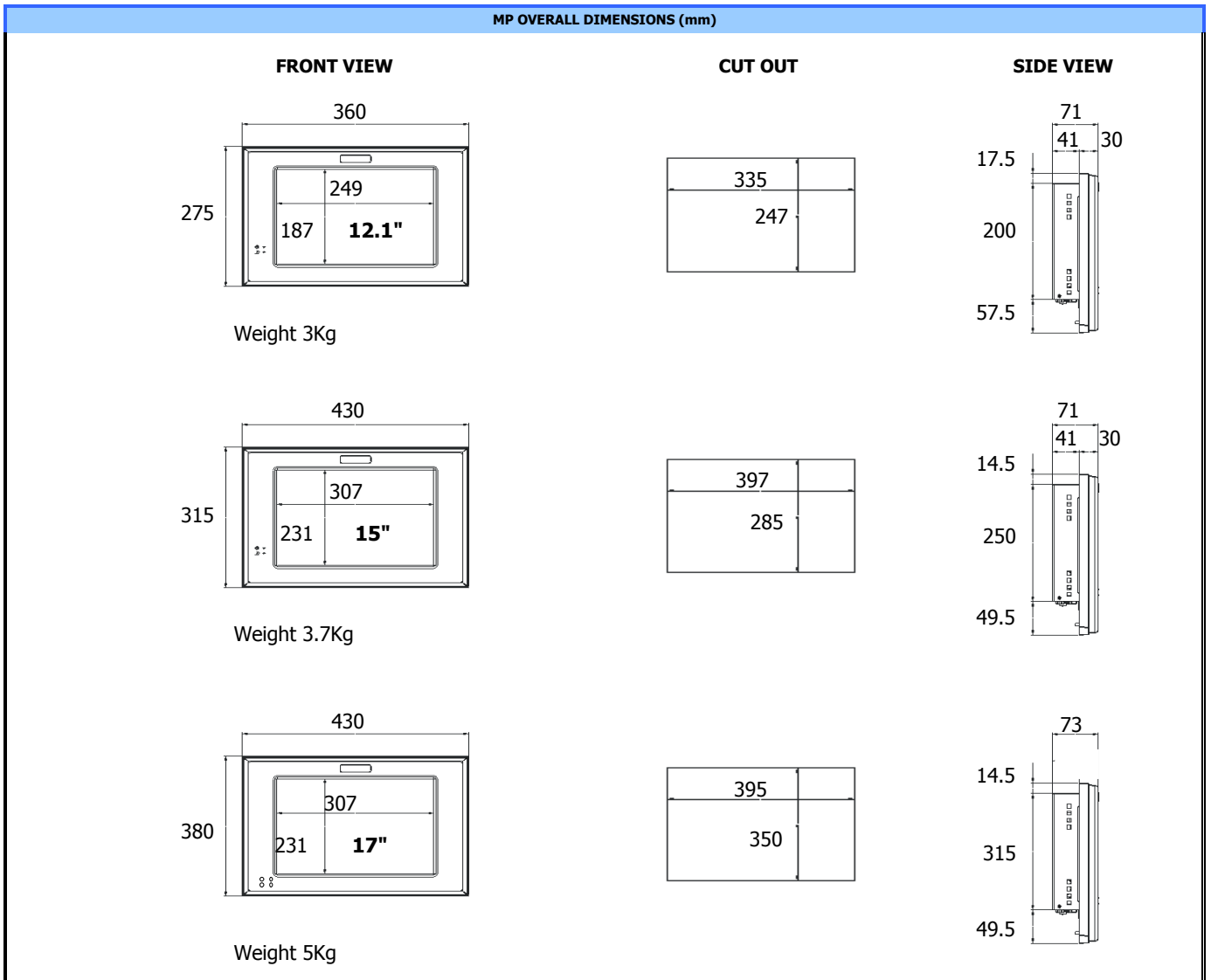
<b>MP 17" MONITOR</b>	
MP17 basic configuration - LCD TFT SXGA 1280x1024 16M colors • No Touch • power supply 220V/AC 36W max • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 17" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 17" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

MP TECHNICAL SPECIFICATIONS: see REAR



MP TECHNICAL SPECIFICATIONS		
Case	Panel mount (plastic front panel)	
Overall dimensions & weight	See details on the rear	
Frontal protection	IP65	
Environmental specifications	Operating temperature: 0 ÷ +50°C · Storage temperature: -5 ÷ +60°C · Humidity: 80% (non-condensing)	
Rear interfaces	1 x VGA · 1 x RS-232 DB9 connector (for touch screen controller) > <b>see annotation 1</b>	
LCDs optical specifications	Pixel pitch 0,3075 x 0,3075mm · Luminance 250cd/m2 · 2 backlights, 50.000h MTBF · viewing angle 140° H · 120° V · contrast 350 (typical)	MP12
	Pixel pitch 0,297 x 0,297mm · Luminance 250cd/m2 · 4 backlights, 50.000h MTBF · viewing angle 170° H · 170° V · contrast 400 (typical)	MP15
	Pixel pitch 0,297 x 0,297mm · Luminance 600cd/m2 · 4 backlights, 50.000h MTBF · viewing angle 120° H · 100° V · contrast 350 (typical)	MP15-HL
	Pixel pitch 0,264 x 0,264mm · Luminance 300cd/m2 · 2 backlights, 50.000h MTBF · viewing angle 150° H · 135° V · contrast 500 (typical)	MP17
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters	

ANNOTATIONS
<b>1:</b> For MP 15" and MP-HL 15": 1 x VGA · 1 x RS232 DB9 connector (for touch screen controller) · 1 x RS232/422 DB15 connector (for touch screen controller)





**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

<b>MA12 MONITOR</b>	
MA12 basic configuration - LCD TFT SVGA 800x600 16M colors • No Touch • power supply 220V/AC • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 12.1" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>POWER SUPPLY</b>	90÷264V/AC • 36W • autoranging
	18÷36V/DC • 30W • autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

<b>MA15 MONITOR</b>	
MA15 basic configuration - LCD TFT XGA 1024x768 16M colorS • No Touch • power supply 220V/AC • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 15" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 15" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>POWER SUPPLY</b>	90÷264V/AC • 36W • autoranging
	18÷36V/DC • 30W • autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

<b>MA15-HL (HIGH LUMINANCE) MONITOR</b>	
MA15-HL basic configuration - LCD TFT XGA 1024x768 16M colorS • No Touch • power supply 220V/AC • VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 15" • 5 wires resistive technology (ELO) • RS-232 serial interface DB9 connector • with 1.8m serial cable
	Touch-Screen 15" • 5 wires resistive technology (ELO) • USB interface • with 2m USB cable
<b>POWER SUPPLY</b>	90÷264V/AC • 36W • autoranging
	18÷36V/DC • 30W • autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic system and its variants
	Warranty extension to 24 months + 1 month exemption on basic system and its variants

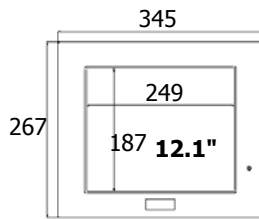
MAXX TECHNICAL SPECIFICATIONS	
Case	Panel mount (Aluminum alloy front panel)
Overall dimensions & weight	See details on the rear
Frontal protection	IP65
Environmental specifications	Operating temperature: 0 ÷ +50°C • Storage temperature: -5 ÷ +60°C • Humidity: 80% (non-condensing)
Rear interfaces	1 x VGA • 1 x RS-232 DB9 connector (for touch screen controller) > <b>see annotation 1</b>
LCDs optical specifications	Pixel pitch 0,3075 x 0,3075mm • Luminance 250cd/m2 • 2 backlights, 50.000h MTBF • viewing angle 140° H • 120° V • contrast 350 (typical)
	Pixel pitch 0,297 x 0,297mm • Luminance 250cd/m2 • 4 backlights, 50.000h MTBF • viewing angle 170° H • 170° V • contrast 400 (typical)
	Pixel pitch 0,297 x 0,297mm • Luminance 600cd/m2 • 4 backlights, 50.000h MTBF • viewing angle 120° H • 100° V • contrast 350 (typical)
Standard warranty	12 months + 1 month exemption • warranty management by ASEM headquarters

ANNOTATIONS
<b>1:</b> For MA15 and MA15-HL: 1 x VGA • 1 x RS232 DB9 connector (for touch screen controller) • 1 x RS232/422 DB15 connector (for touch screen controller)



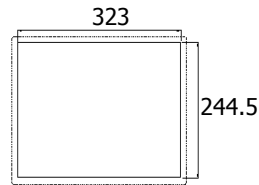
MA OVERALL DIMENSIONS (mm)

**FRONT VIEW**

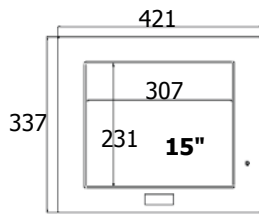


Weight 4.5Kg

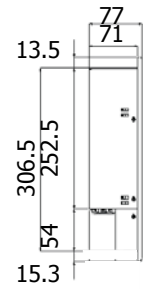
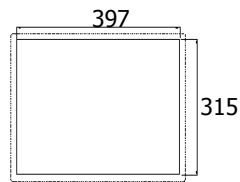
**CUT OUT**



**SIDE VIEW**



Weight 4.5Kg





**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

<b>MR12 MONITOR</b>	
MR12 basic configuration - LCD TFT SVGA 800x600 16M colors · No Touch · power supply 220V/AC · VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 12.1" · 5 wires resistive technology (ELO) · RS-232 serial interface DB9 connector · with 1.8m serial cable
	Touch-Screen 12.1" · 5 wires resistive technology (ELO) · USB interface · with 2m USB cable
<b>POWER SUPPLY</b>	90±264V/AC · 36W · autoranging
	18±36V/DC · 30W · autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic monitor and its variants
	Warranty extension to 24 months + 1 month exemption on basic monitor and its variants

<b>MR15 MONITOR</b>	
MR15 basic configuration - LCD TFT XGA 1024x768 16M colorS · No Touch · power supply 220V/AC · VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 15" · 5 wires resistive technology (ELO) · RS-232 serial interface DB9 connector · with 1.8m serial cable
	Touch-Screen 15" · 5 wires resistive technology (ELO) · USB interface · with 2m USB cable
<b>POWER SUPPLY</b>	90±264V/AC · 36W · autoranging
	18±36V/DC · 30W · autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic monitor and its variants
	Warranty extension to 24 months + 1 month exemption on basic monitor and its variants

<b>MR15-HL (HIGH LUMINANCE) MONITOR</b>	
MR15-HL basic configuration - LCD TFT XGA 1024x768 16M colorS · No Touch · power supply 220V/AC · VGA cable	
<b>TOUCH-SCREEN</b>	No Touch-Screen
	Touch-Screen 15" · 5 wires resistive technology (ELO) · RS-232 serial interface DB9 connector · with 1.8m serial cable
	Touch-Screen 15" · 5 wires resistive technology (ELO) · USB interface · with 2m USB cable
<b>POWER SUPPLY</b>	90±264V/AC · 36W · autoranging
	18±36V/DC · 30W · autoranging
<b>OPTIONS</b>	Warranty extension to 18 months + 1 month exemption on basic monitor and its variants
	Warranty extension to 24 months + 1 month exemption on basic monitor and its variants

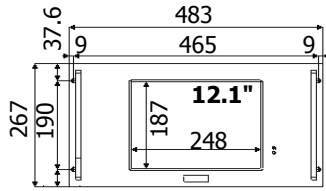
<b>MRxx TECHNICAL SPECIFICATIONS</b>		
Case	Rack mount 19"	
Overall dimensions & weight	See details on the rear	
Frontal protection	IP65	
Environmental specifications	Operating temperature: 0 ÷ +50°C · Storage temperature: -5 ÷ +60°C · Humidity: 80% (non-condensing)	
Rear interfaces	1 x VGA · 1 x RS-232 DB9 connector (for touch screen controller) > <b>see annotation 1</b>	
LCDs optical specifications	Pixel pitch 0,3075 x 0,3075mm · Luminance 250cd/m2 · 2 backlights, 50.000h MTBF · viewing angle 140° H · 120° V · contrast 350 (typical)	MR12
	Pixel pitch 0,297 x 0,297mm · Luminance 250cd/m2 · 4 backlights, 50.000h MTBF · viewing angle 170° H · 170° V · contrast 400 (typical)	MR15
	Pixel pitch 0,297 x 0,297mm · Luminance 600cd/m2 · 4 backlights, 50.000h MTBF · viewing angle 120° H · 100° V · contrast 350 (typical)	MR15-HL
Standard warranty	12 months + 1 month exemption · warranty management by ASEM headquarters	

<b>ANNOTATIONS</b>
<b>1:</b> For MR15 and MR15-HL: 1 x VGA · 1 x RS232 DB9 connector (for touch screen controller) · 1 x RS232/422 DB15 connector (for touch screen controller)



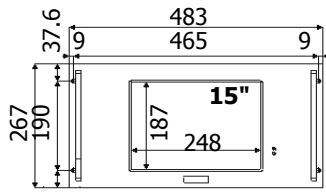
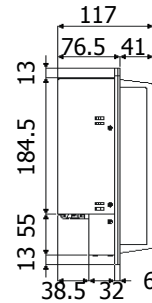
MRxx OVERALL DIMENSIONS (mm)

**FRONT VIEW**

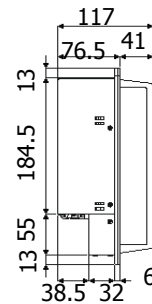


Weight 5Kg

**SIDE VIEW**



Weight 5Kg



**Embedded & Industrial PCs INTERNATIONAL Products and Configurations**

CODE	MICROSOFT OPERATING SYSTEMS IN ASEM'S OEM VERSION > see annotation 1	↓
OCS90144	Microsoft WINDOWS XP Pro SP2/98 SE ENGLISH (downgrade to Win98SE) license (Microsoft sticker), CD and user guide - Win98 SE ENGLISH is preinstalled onto HDD by ASEM during IPC production process	
OCS90143	Microsoft WINDOWS XP Pro SP2/98 SE ITALIAN (downgrade to Win98SE) license (Microsoft sticker), CD and user guide - Win98 SE ITALIAN is preinstalled onto HDD by ASEM during IPC production process	
OCS90176	Microsoft WINDOWS XP Pro SP2 <b>b</b> /98 SE ENGLISH (downgrade to Win98SE) license (Microsoft sticker) and CD - Win98 SE ENGLISH is preinstalled onto HDD by ASEM during IPC production process	
OCS90175	Microsoft WINDOWS XP Pro SP2 <b>b</b> /98 SE ITALIAN (downgrade to Win98SE) license (Microsoft sticker) and CD - Win98 SE ITALIAN is preinstalled onto HDD by ASEM during IPC production process	
OCS90140	Microsoft WINDOWS XP Pro SP2/2000 ENGLISH (downgrade to Win2000 Pro) license (Microsoft sticker), CD and user guide - Win2000 PRO SP4 ENGLISH is preinstalled onto HDD by ASEM during IPC production process.	
OCS90139	Microsoft WINDOWS XP Pro SP2/2000 ITALIAN (downgrade to Win2000 Pro) license (Microsoft sticker), CD and user guide - Win2000 PRO SP4 ITALIAN is preinstalled onto HDD by ASEM during IPC production process.	
OCS90169	Microsoft WINDOWS XP Pro SP2 <b>b</b> /2000 ENGLISH (downgrade to Win2000 Pro) license (Microsoft sticker) and CD - Win2000 PRO SP4 ENGLISH is preinstalled onto HDD by ASEM during IPC production process.	
OCS90170	Microsoft WINDOWS XP Pro SP2 <b>b</b> /2000 GERMAN (downgrade to Win2000 Pro) license (Microsoft sticker) and CD - Win2000 PRO SP4 GERMAN is preinstalled onto HDD by ASEM during IPC production process.	
OCS90172	Microsoft WINDOWS XP Pro SP2 <b>b</b> /2000 FRENCH (downgrade to Win2000 Pro) license (Microsoft sticker) and CD - Win2000 PRO SP4 FRENCH is preinstalled onto HDD by ASEM during IPC production process.	
OCS90171	Microsoft WINDOWS XP Pro SP2 <b>b</b> /2000 SPANISH (downgrade to Win2000 Pro) license (Microsoft sticker) and CD - Win2000 PRO SP4 SPANISH is preinstalled onto HDD by ASEM during IPC production process.	
OCS90168	Microsoft WINDOWS XP Pro SP2 <b>b</b> /2000 ITALIAN (downgrade to Win2000 Pro) license (Microsoft sticker) and CD - Win2000 PRO SP4 ITALIAN is preinstalled onto HDD by ASEM during IPC production process.	
OCS90142	Microsoft WINDOWS XP Pro SP2/2000 ENGLISH (downgrade to Win2000 Pro) license (Microsoft sticker), CD and user guide - Includes MUI (FULL LANGUAGE), and MUI DVD > <b>see description 1</b>	
	<b>ON DEMAND:</b> Microsoft WINDOWS XP Pro SP2/2000 ENGLISH (downgrade to Win2000 Pro) license (Microsoft sticker), CD and user guide - Includes MUI language TO CUSTOMER CHOICE, and MUI DVD > <b>see description 1</b>	
OCS90114	Microsoft WINDOWS XP Pro SP2 ENGLISH license (Microsoft sticker), CD and user guide.	
OCS90111	Microsoft WINDOWS XP Pro SP2 ITALIAN license (Microsoft sticker), CD and user guide.	
OCS90161	Microsoft WINDOWS XP Pro SP2 <b>b</b> ENGLISH license (Microsoft sticker) and CD.	
OCS90162	Microsoft WINDOWS XP Pro SP2 <b>b</b> GERMAN license (Microsoft sticker) and CD.	
OCS90164	Microsoft WINDOWS XP Pro SP2 <b>b</b> FRENCH license (Microsoft sticker) and CD.	
OCS90163	Microsoft WINDOWS XP Pro SP2 <b>b</b> SPANISH license (Microsoft sticker) and CD.	
OCS90160	Microsoft WINDOWS XP Pro SP2 <b>b</b> ITALIAN license (Microsoft sticker) and CD.	
OCS90165	Microsoft WINDOWS XP Pro SP2 <b>b</b> BRAZILIAN license (Microsoft sticker) and CD.	
	<b>ON DEMAND:</b> Microsoft WINDOWS XP Pro SP2 <b>b</b> license (Microsoft sticker) and CD, available also in the following languages: arabic, chinese traditional Hong Kong, chinese traditional, czech, danish, dutch, finnish, greek, hebrew, hungarian, japanese, korean, norwegian, polish, swedish, turkish	
OCS90141	Microsoft WINDOWS XP Pro SP2 ENGLISH license (Microsoft sticker), CD and user guide - Includes MUI (FULL LANGUAGE), and MUI DVD > <b>see description 1</b>	
	<b>ON DEMAND:</b> Microsoft WINDOWS XP Pro SP2 ENGLISH license (Microsoft sticker), CD and user guide - Includes MUI language TO CUSTOMER CHOICE, and MUI DVD > <b>see description 1</b>	

SEE Annotation 1 and MUI (Multilingual User Interface) at Description 1: NEXT PAGE ⇌⇌⇌

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

ANNOTATIONS
<b>1:</b> ASEM's preinstallation service for chosen operating system is foreseen. The operating system is installed onto <b>HDD</b>

DESCRIPTIONS
<p><b>1:</b> MUI: Multilingual User Interface: when a operating system with MUI is ordered, along with operating system CD and user guide, a DVD with MUI is supplied; MUI DVD is full language (about 5GB for WinXP, about 1,2GB for Win2000); from the operating systems itself, customer will choose the desired language</p> <p><b>What is MUI:</b> Multilingual User Interface Pack is a set of language specific resource files that can be added to the English version of Windows Professional. When installed on the English version of Windows, MUI allows the user interface language of the operating system to be changed according to the preferences of individual users to one of the 33 supported languages. This allows large corporations to roll out the same worldwide image with a single install job. Local users can then select the user interface language or it can be set by Group Policy for Organizational Units.</p> <p>MUI also allows different language users to share the same workstation or roaming users to take their localized user interface from one workstation to another. For instance, one user might choose to see system menus, dialogs and other text in Japanese, while another user logging onto the same system might prefer to see the corresponding text in French. Differences between WinXP MUI and Win2000 MUI are: Windows XP MUI addresses key issues raised by customers over Windows 2000 MUI. Enhancements include: a more extensively localized user interface than Windows 2000 MUI that includes localized folder and file names. Users will see more information in their particular language.</p> <p><b>WinXP MUI languages:</b> arabic, bulgarian, chinese simplified, chinese traditional, croatian, czech, danish, dutch, english, estonian, finnish, french, german, greek, hebrew, hungarian, italian, japanese, korean, latvian, lithuanian, norwegian, polish, portuguese (Portugal), portuguese (Brazil) romanian, russian, slovak, slovenian, spanish, swedish, thai, turkish (every language takes about 120MB of free disk space)</p> <p><b>Win2000 MUI languages:</b> arabic, chinese simplified, chinese traditional, czech, danish, dutch, english, finnish, french, german, greek, hebrew, hungarian, italian, japanese, korean, norwegian, polish, portuguese (Portugal), portuguese (Brazil), russian, spanish, swedish, turkish (every language takes about 40MB of free disk space)</p>

CODE	MICROSOFT RUNTIME EMBEDDED OPERATING SYSTEMS IN ASEM'S OEM VERSION > see annotation 1	↓
OSW582MI	Microsoft DOS 6.22 Embedded license only (Microsoft sticker)	
OSW909MI	Microsoft WINDOWS XP Embedded runtime license only (Microsoft sticker)	
OCS90146	Microsoft WINDOWS XP Embedded runtime license (Microsoft sticker), with ASEM's standard FootPrint (release 01) SP1 ENGLISH, for 851 motherboard	
OCS90147	Microsoft WINDOWS XP Embedded runtime license (Microsoft sticker), with ASEM's standard FootPrint (release 01) SP1 ENGLISH, for 801 / 811 / 823 motherboards	
OCS90148	Microsoft WINDOWS XP Embedded runtime license (Microsoft sticker), with ASEM's standard FootPrint (release 03) SP2 ENGLISH, for 851 motherboard	
OCS90149	Microsoft WINDOWS XP Embedded runtime license (Microsoft sticker), with ASEM's standard FootPrint (release 02) SP2 ENGLISH, for 801 / 811 / 823 motherboards	
OSV913MI	Microsoft WINDOWS CE 5.0 Pro Plus runtime license only (Microsoft sticker).	
OCS90150	Microsoft WINDOWS CE 5.0 Pro Plus runtime license (Microsoft sticker), with ASEM's standard FootPrint, for 851 motherboard	
	<b>ON DEMAND:</b> Microsoft WINDOWS XP Embedded runtime license (Microsoft sticker), with LANGUAGE-CUSTOMIZED FootPrint (1 MUI LANGUAGE) > see description 1	
	<b>ON DEMAND:</b> Microsoft WINDOWS XP Embedded runtime license (Microsoft sticker), with FootPrint CUSTOMIZED by additional WinXP Embedded components and/or customer applications	
	<b>ON DEMAND:</b> Microsoft WINDOWS CE 5.0 Pro Plus runtime license (Microsoft sticker), with FootPrint CUSTOMIZED by additional WinXP Embedded components and/or customer applications	

ANNOTATIONS
<b>1:</b> For embedded operating systems, ASEM's preinstallation service for FootPrint is foreseen. Footprint is installed onto <b>HDD or Compact Flash Card</b>

DESCRIPTIONS
<p><b>1: What is MUI:</b> Multilingual User Interface Pack is a set of language specific resource files that can be added to the English version of Windows Professional. When installed on the English version of Windows, MUI allows the user interface language of the operating system to be changed according to the preferences of individual users to one of the 33 supported languages. This allows large corporations to roll out the same worldwide image with a single install job. Local users can then select the user interface language or it can be set by Group Policy for Organizational Units.</p> <p>MUI also allows different language users to share the same workstation or roaming users to take their localized user interface from one workstation to another. For instance, one user might choose to see system menus, dialogs and other text in Japanese, while another user logging onto the same system might prefer to see the corresponding text in French.</p> <p><b>WinXP MUI languages:</b> arabic, bulgarian, chinese simplified, chinese traditional, croatian, czech, danish, dutch, english, estonian, finnish, french, german, greek, hebrew, hungarian, italian, japanese, korean, latvian, lithuanian, norwegian, polish, portuguese (Portugal), portuguese (Brazil) romanian, russian, slovak, slovenian, spanish, swedish, thai, turkish (every language takes about 120MB of free disk space)</p>

CODE	DEVELOPMENT TOOLS FOR MICROSOFT EMBEDDED OPERATING SYSTEMS	↓
OSW615MI	Microsoft WINDOWS XP Embedded Development kit	



# Compact Flash Cards

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

CODE	INDUSTRIAL GRADE COMPACT FLASH CARDS (SILICON SYSTEMS) - 2.000.000 write cycles	↓
45505029	128MB (SSD-C12M-3012)	
45505023	256MB (SSD-C25M-3012)	
45505024	512MB (SSD-C51M-3012)	
45505025	1GB (SSD-C01G-3012)	
45505026	2GB (SSD-C02G-3012)	
45505038	4GB (SSD-C04G-3500)	

SILICON SYSTEMS COMPACT FLASH CARDS TECHNICAL SPECIFICATIONS	
Overall dimensions (W x D X H)	42,8 x 36,4 x 3,3mm
Environmental specifications	Operating temperature: 0°C ÷ +70°C; humidity: 8% ÷ 95% (non-condensing)
Technology	SLC (Single-Level Cell)
Wear Leveling	Static
Error correction	6-bit algorithm
Non-recoverable errors	< 1 every 10 <sup>14</sup> bits read
Interface	ATA-3 compatible
Power supply	3,3/5 V
Read transfer rate	8MB/s
Write transfer rate	6MB/s
Burst transfer rate	16,7MB/s
Shock	1000G x 0,5 seconds
Write / erase cycles	>2000000
MTBF	4000000h
RoHS compliant	Yes
Data retention	10 years

CODE	CONSUMER GRADE COMPACT FLASH CARDS (SANDISK)	↓
45505021	128MB (SDCFJ-128-388)	
45505022	256MB (SDCFJ-256-388)	
45505019	512MB (SDCFJ-512-388)	
45505020	1GB (SDCFJ-1024-388)	
45505030	2GB (SDCFJ-2048-388)	
45505031	4GB (SDCFJ-4096-388)	

SANDISK COMPACT FLASH CARDS TECHNICAL SPECIFICATION	
Overall dimensions (W x D X H)	42,8 x 36,4 x 3,3mm
Environmental specifications	Operating temperature: 0°C ÷ +70°C; humidity: 8% ÷ 95% (non-condensing)
Technology	SLC (Single-Level Cell)
Wear Leveling	n.d.
Error correction	n.d.
Non-recoverable errors	n.d.
Interface	ATA compatible
Power supply	3,3/5 V
Read transfer rate	n.d.
Write transfer rate	n.d.
Burst transfer rate	n.d.
Shock	n.d.
Write / erase cycles	n.d.
MTBF	n.d.
RoHS compliant	Yes
Data retention	n.d.

ASEM'S SERVICES FOR COMPACT FLASH CARDS: SEE SERVICES PAGE →→→



# Serial / Parallel Cards

## Embedded & Industrial PCs INTERNATIONAL Products and Configurations

CODE	PCI BUS SERIAL/PARALLEL CARDS	↓
91085200	2 x RS-232 port serial card, DB9 male	
91090610	1 x Parallel DB25 female (on card's backplate) and 2 x RS-232, DB9 male (on a separated backplate) serial/parallel card	

CODE	ISA BUS SERIAL CARDS ( MOXA )	↓
0AIAS119	CI-132 serial card, with 2 x RS-422/485 DB9 male	
	CI-132IS serial card, with 2 x RS-422/485, DB9 male, optoisolated (2KV)	
0AIAS117	CI-132IS serial card, with 2 x RS-422/485, DB9 male, optoisolated + surge protection > see annotation 1	
91084510	C104P serial card, with 4 x RS-232, DB37 female, and with DB37 male to 4 x DB9 male connection cable	
91084500	C104P serial card, with 4 x RS-232, DB37 female, and with DB37 male to 4 x DB25 male connection cable	
0AIAS126	C168H serial card, with 8 x RS-232, DB62 female to box (this card should be aquired along with a connection BOX for C168H and C168H/PCI serial cards, described below)	

CODE	PCI BUS SERIAL CARDS ( MOXA )	↓
0AIAS133	CP-132 serial card, with 2 x RS-422/485, DB9 male	
	CP-132IS serial card, with 2 x RS-422/485, DB9 male, optoisolated (2KV)	
0AIAS124	CP-132IS serial card, with 2 x RS-422/485, DB9 male, optoisolated + surge protection > see annotation 1	
0AIAS112	C104H/PCI serial card, with 4 x RS-232, DB37 female, and with DB37 male to 4 x DB9 male cable	
0AIAS131	CP-114 serial card, with 4 x RS-232/422/485, DB37 female, and with DB37 male to 4 x DB9 male cable	
0AIAS130	CP-114I serial card with 4 x RS-232/422/485, DB37 female, optoisolated (2KV), and with DB37 male to 4 x DB9 male connection cable	
0AIAS127	CP-114IS serial card with 4 x RS-232/422/485, DB37 female, optoisolated + surge protection > <b>see annotation 1</b> , and with DB37 male to 4 x DB9 male connection cable	
0AIAS123	C168H/PCI serial card with 8 x RS-232, DB62 female to box (this card should be aquired along with a connection BOX for C168H and C168H/PCI serial cards, described below)	

CODE	CONNECTION BOXES ( MOXA ) FOR C168H E C168H/PCI SERIAL CARDS	↓
91084700	Opt8B connection box, with DB62 female to 8 x RS-232 DB25 male ports, with DB62 male to DB62 male connection cable (L=1,5m)	
	Opt8-M9 connection box, with DB62 male to 8 x RS-232 DB9 male ports, and with DB62 male to DB62 female connection cable (L=1,5m)	

### ANNOTATIONS

**1: What is surge protection:** A shield from surges in electrical power, or transient voltage, that flow from the power supply. Anything over normal voltage amount is considered transient and can damage electronic devices that are plugged into an outlet. Even though power surges are so brief that they are measured in nanoseconds, they can cause considerable damage to electronic equipment.

A surge protector works by channeling the extra voltage into the outlet's grounding wire, preventing it from flowing through the electronic devices while at the same time allowing the normal voltage to continue along its path. Electrical surges can damage computer equipment by burning its wires or gradually over time wearing down the device's internal components and even wipe out any saved data.

Surge protection ratios for serial cards equipped with this functionality: 25KV ESD (ElectroStatic Discharge) on every port



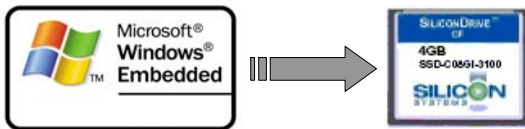
**ASEM'S OPERATING SYSTEM PREINSTALLATION SERVICE**

On Embedded & Industrial PCs wherever a primary hard disk drive unit is foreseen, operating system's preinstallation service is supplied by ASEM. Operating systems are those listed in Operating Systems Page.

Operating system preinstallation service depends on PC's chosen configuration, that is, all the drivers required for specific hardware usage are installed. Mainly, differences among configurations are given by:

- ⇒ Touch-screen management software, if Touch-screen is installed
- ⇒ Operating system's Service Pack

Usually, installed Service Pack version is the last one released for that operating system, unless specific customer's requirement, who, for application compatibility convenience, may decide the usage of a previous Service Pack version.



**ASEM'S EMBEDDED OPERATING SYSTEM PREINSTALLATION SERVICE (ON COMPACT FLASH CARDS)**

Whenever a Compact Flash Card is installed on the PC, and used as primary unit, ASEM, besides operating system license, supplies, by its headquarters, its fully-qualified FootPrint Preinstallation Service for Embedded operating systems. In particular:

- ⇒ For WinXP:  
ASEM's standard FootPrint includes all the system services and drivers required by the environment and by peripherals. FootPrint is built by using about 1000 components chosen among the total (about 11000) available for WinXP Embedded. ASEM's standard FootPrint size is about 200MB; hence, minimum recommended Compact Flash card size is 512MB.
- ⇒ For WinCE:  
Also for WinCE, ASEM supplies the FootPrint Preinstallation Service. For this operating system the number of usable modules, and, thereby, FootPrint size, may widely vary, and have to be evaluated according to each instance.

Furthermore, ASEM adds support for on-demand FootPrints, according to customer-specific needs, assuring, in this way, full compatibility among specific applications and embedded operating system