

Panel PC Fanless

Reliable low consumption panel PC systems without forced ventilation with ATOM, Pentium, Core 2 Duo processors, touch LCD display from 6.5" to 19" in plastic, aluminium or INOX frontal frame. Expansion slots and connections to main industrial fieldbuses to manage control and visualisation applications.

Panel PC Performance

Performance panel PC systems that guarantee high calculating power and graphics processing capabilities due to Pentium and Core 2 Duo processors and available with touch LCD display from 12" to 19" in plastic, aluminium or INOX frontal frame. Expansion slots and connections to main industrial fieldbuses to manage control and visualisation applications.

Panel PC Fanless

	LCD	FRONT PANEL	PROCESSORS		SLOT	POWER SUPPLY	O.S.	
OT600	6,5" 8,4" 12,1"	Alu	LX800		MiniPCI	12VDC 24VDC	CE5 CE6 WES XP Pro	16
OT1100	12,1" 15" 17" 19"	Alu Inox	ATOM		MiniPCI	24VDC	CE6 WES XP Pro W7	18
OT1200	8,4" 10,4" 12,1" 15" 17" 19"	Alu Inox	CelM		PC/104Plus PCI	24VDC UPS	CE5 CE6 WES XP Pro	20
WS500 WS500-TE	12,1" 15" 17"	Plastic	CelM		PCI PCIe	24VDC 220VAC	WES XP Pro	22
WS550 WS550-TE	12,1" 15" 17"	Plastic	C2D		PCI PCIe	24VDC 220VAC	WES XP Pro W7	24
FT500 FT500-TE	12,1" 15" 17"	Alu	CelM		PCI PCIe	24VDC 220VAC	WES XP Pro	26
FT550 FT550-TE	12,1" 15" 17" 19"	Alu Inox	C2D		PCI PCIe	24VDC 220VAC	WES XP Pro W7	28

Panel PC Performance

	LCD	FRONT PANEL	PROCESSORS		SLOT	POWER SUPPLY	O.S.	PAGE
OT1300	8,4" 10,4" 12,1" 15" 17" 19"	Alu Inox	CelM PM		PC/104Plus PCI	24VDC	CE5 CE6 WES XP Pro	30
WS600 WS600-TE	12,1" 15" 17"	Plastic	CelM PM		PCI PCIe	24VDC 220VAC	WES XP Pro	32
WS650 WS650-TE	12,1" 15" 17"	Plastic	Cel C2D		PCI PCIe	24VDC 220VAC	WES XP Pro W7	34
FT600 FT600-TE	12,1" 15" 17"	Alu	CelM PM		PCI PCIe	24VDC 220VAC	WES XP Pro	36
FT650 FT650-TE	12,1" 15" 17" 19"	Alu Inox	Cel C2D		PCI PCIe	24VDC 220VAC	WES XP Pro W7	38

Alu: aluminium | Inox: stainless steel | CelM: Celeron M | C2D: Core 2 Duo | PM: Pentium M | PCIe: PCI Express bus | RID: redundant
 WES: Windows Embedded Standard | W7: Windows Seven | Res 4: resistive 4 wires | Res 5: resistive 5 wires | GFG: Glass Film Glass

OT600

The OT600 is a FANLESS PANEL PC featuring extreme compactness and excellent performance at an affordable price. It integrates all the HW and SW functions for a full system control by using NETcore® X fieldbus cards, SoftPLC/SoftMotion CoDeSys and the Premium HMI®/Plus application dedicated to supervision. It only uses Compact Flash and SSD solid state memories and can be extended with MiniPCI add-ons.

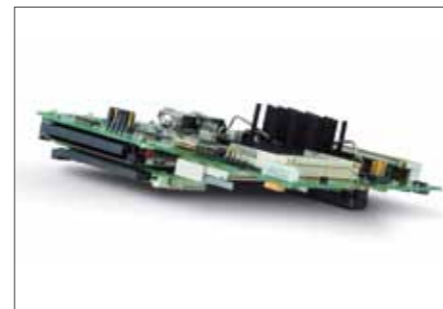


Image 1: Two CF slots
Image 2: Plant supervision with Premium HMI
Image 3: Two MiniPCI slots

FEATURES PLUS

- 2 CFS FOR OPERATING SYSTEM AND DATA STORAGE
- SUITED FOR SUPERVISOR AND CONTROL OF SMALL PLANTS
- 2 MINIPCI SLOTS FOR EXPANSION CARDS

HMI600
OT600+Premium HMI Plus
See page 9

System characteristics				
Display	Size	6,5"	8,4"	12,1"
	Type	Color LCD TFT	Color LCD TFT	Color LCD TFT
Touchscreen <i>Optional</i>	Resolution	640 x 480 (VGA)	800 x 600 (SVGA)	800 x 600 (SVGA)
	Colors	256K	256K	256K
	Pixel pitch	0,207 x 0,207mm	0,213 x 0,213mm	0,307 x 0,307mm
	Backlight	CCFL 2 lamps	CCFL 2 lamps	CCFL 2 lamps
	Luminance	400cd/m2	400cd/m2	400cd/m2
	Contrast	550:1	450:1	500:1
	Viewing angle	140° H, 120° V	120° H, 100° V	120° H, 100° V
	MTTF	-	-	60000h
	Technology	4 wires - analog - resistive	5 wires - analog - resistive	5 wires - analog - resistive
	Light transmission	80% ±2%	80% ±2%	80% ±2%
Lifetime	35min activations	35min activations	35min activations	
Linearity deviation	< 1 %	< 1 %	< 1 %	
Interface	Serial	Serial	Serial	
Glass Film Glass	No	No	Optional	
Motherboard	Model	All-in-one, ASEM MB831-V		
	HW monitor	Temperature monitor		
CPU	Cache	128KB L2		
	Socket	Soldered on board		
Graphic	Controller	Integrated on board		
	Memory	Shared - 2MB÷128MB system selectable		
System memory	Type	DDR PC2700		
	Size	256MB, 512 MB, 1 GB		
Serial interfaces	Socket	1 x SODIMM module		
	Type	1 x RS232 (DB9M)		
Ethernet interfaces	UART	16550 compatible (FIFO 16 byte)		
	Transfer rate	115Kbps max		
	Optoisolation	No		
	Type	1 x RS-232/422/485 (DB15M)		
USB interfaces	UART	16550 compatible (FIFO 16 byte)		
	Transfer rate	115Kbps max		
	Optoisolation	No		
	Type	1 x 10/100Mbps (RJ45)		
Compact Flash slots	Controller	Intel 82551QM		
	Type	2 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected)		
Mass storage interfaces	Transfer rate	Up to 480Mbit (high speed)		
	Type optional	1 x Type II (external access)		
Expansion slots	Type	1 x Type II (internal access)		
	Parallel	1 x ATA/66 Master/Slave (dedicated for CF Slots)		
Battery	Type	2 x MiniPCI type III		
	Removable	AA Lithium (3.6V)		
Buttons, leds and keys	Lifetime	No		
	LEDs	20 years		
Electrical characteristics	Reset button	Yes		
	Power consumption	Power		
Mechanical characteristics	Type	Integrated on board, auto ranging		
	Input voltage	9-36 VDC		
Environmental characteristics	Power consumption	10W - 13W basic configuration (without add-on)		
	Type	Panel mount		
Warranty & Approvals	Material	Steel, zinc galvanization		
	Protection	IP65		
CE	Construction	Aluminum alloy		
	Dimensions (W x H x D)	201 x 188 x 68	213 x 179	292 x 239
	Weight (Kg)	1,6	2,2	3,2
	Temperature	0° ÷ +50°C		
UL	Humidity	-20° ÷ +60°C		
	Operation/Storage	80% (non-condensing)		
Warranty	Operation	0° ÷ +50°C		
	Storage	-20° ÷ +60°C		
Warranty & Approvals	Operation/Storage	80% (non-condensing)		
	Emission	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics		
UL	Immunity	Conforms to EN 61000-3-2 - Limits for harmonic current emissions		
	Safety	Conforms to EN 61000-3-3 - Limits of voltage fluctuation and flicker		
Warranty	Management	Conforms to EN 55024 Information technology equipment - Immunity characteristics		
	Standard	Conforms to EN 60950-1 - Information technology equipment - Safety		
Warranty	Extended	UL, cUL		
	Extended	Conforms to UL-60950-1 - Information technology Equipment - Safety		
Warranty	Standard	2090306-E315863		
	Extended	By ASEM headquarters		
Warranty	Standard	12 months		
	Extended	18 / 24 / 36 months (optional)		

Fanless

OT1100

The new OT1100 is the ASEM's ATOM based embedded fanless panel PC that mount the Intel® Atom™ low power processors series Z500 up to 1.6GHz with 'Hyper Threading Technology' functionality. Available with 12", 15" and 17" LCD size has a small depth of only 60mm. Due to the presence of MiniPCI expansion slots, it can be installed ASEM fieldbus NETCore® X communication cards. This guarantee the connection towards process I/Os and supply a large range of possible configurations to answer the needs of a supervisor and control process application.



Image 1: Thin mechanics

Image 2: Fieldbuses on MiniPCI slots

Image 3: ATOM Technology

FEATURES PLUS

- ✕ INTEL® ATOM LOW POWER TECHNOLOGY
- ✕ EMBEDDED OPERATING SYSTEMS INSTALLED ON SSD AND CF
- ✕ INDUSTRIAL FIELDBUS OPTIONAL
- ✕ 2 MINIPCI SLOTS FOR EXPANSION CARDS
- ✕ INOX TRUEFLAT FRONT PANEL OPTIONAL

System characteristics						
Display	Size	12,1"	12,1"	15,0"	17,0"	19"
	Type	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT
Touchscreen Optional (note 1)	Resolution	1024 x 768 (XGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)
	Colors	256K	256K	16M	16M	16M
	Pixel pitch	0,240 x 0,240mm	0,240 x 0,240mm	0,297 x 0,297mm	0,264 x 0,264mm	0,294 x 0,294mm
	Backlight	CCFL 2 lamps	CCFL 2 lamps	CCFL 2 lamps	CCFL 2 lamps	CCFL 2 lamps
	Luminance	400cd/m2	400cd/m2	400cd/m2	300cd/m2	300cd/m2
	Contrast	500:1	500:1	500:1	1000:1	1000:1
	Viewing angle	120° H, 100° V	120° H, 100° V	120° H, 140° V	160° H, 160° V	160° H, 160° V
	MTTF	60000h	60000h	50000h	50000h	-
	Technology	5 wires - analog - resistive	5 wires - analog - resistive	5 wires - analog - resistive	5 wires - analog - resistive	5 wires - analog - resistive
	Light transmission	80% ±2%	80% ±2%	80% ±2%	80% ±2%	80% ±2%
Lifetime	35mln activations	35mln activations	35mln activations	35mln activations	35mln activations	
Linearity deviation	< 1 %	< 1 %	< 1 %	< 1 %	< 1 %	
Interface	Serial	Serial	Serial	Serial	Serial	
Glass film Glass	Optional	Optional	Optional	Optional	Optional	
Motherboard	Model	All-in-one, ASEM MB991/A	All-in-one, ASEM MB991/A	All-in-one, ASEM MB991/A	All-in-one, ASEM MB991/A	All-in-one, ASEM MB991/A
	HW monitor Watch-dog	Temperature monitor Time programmable	Temperature monitor Time programmable	Temperature monitor Time programmable	Temperature monitor Time programmable	Temperature monitor Time programmable
CPU	Processor	Intel® ATOM Z510P 1.1GHz	Intel® ATOM Z510P 1.1GHz	Intel® ATOM Z530P 1.6GHz	Intel® ATOM Z530P 1.6GHz	Intel® ATOM Z530P 1.6GHz
	FSB	400MHz	400MHz	533MHz	533MHz	533MHz
Graphic	Cache	512KB L2	512KB L2	512KB L2	512KB L2	512KB L2
	Chipset	Intel® US15WP	Intel® US15WP	Intel® US15WP	Intel® US15WP	Intel® US15WP
System memory	Controller	GMA500 integrated in Intel® US15WP	GMA500 integrated in Intel® US15WP	GMA500 integrated in Intel® US15WP	GMA500 integrated in Intel® US15WP	GMA500 integrated in Intel® US15WP
	Memory	Shared - 1MB, 4MB, 8MB system selectable	Shared - 1MB, 4MB, 8MB system selectable	Shared - 1MB, 4MB, 8MB system selectable	Shared - 1MB, 4MB, 8MB system selectable	Shared - 1MB, 4MB, 8MB system selectable
Serial interfaces	Type	1 x RS232 (DB9M)	1 x RS232 (DB9M)	1 x RS232 (DB9M)	1 x RS232 (DB9M)	1 x RS232 (DB9M)
	UART	16550 compatible (FIFO 16 byte)	16550 compatible (FIFO 16 byte)	16550 compatible (FIFO 16 byte)	16550 compatible (FIFO 16 byte)	16550 compatible (FIFO 16 byte)
Optional (note 1)	Transfer rate	115Kbps max	115Kbps max	115Kbps max	115Kbps max	115Kbps max
	Optoisolation	No	No	No	No	No
Ethernet interfaces	Type	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)
	Controller	Intel 8255QM - Intel 82574L	Intel 8255QM - Intel 82574L	Intel 8255QM - Intel 82574L	Intel 8255QM - Intel 82574L	Intel 8255QM - Intel 82574L
USB interfaces	Type	2 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected), optional 3 x USB 2.0 (rear, TYPE-A, host port)	2 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected), optional 3 x USB 2.0 (rear, TYPE-A, host port)	2 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected), optional 3 x USB 2.0 (rear, TYPE-A, host port)	2 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected), optional 3 x USB 2.0 (rear, TYPE-A, host port)	2 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected), optional 3 x USB 2.0 (rear, TYPE-A, host port)
	Transfer rate	Up to 480Mbit (high speed)	Up to 480Mbit (high speed)	Up to 480Mbit (high speed)	Up to 480Mbit (high speed)	Up to 480Mbit (high speed)
Compact Flash slots	Type	1 x Type II (external access), 1 x Type I (internal access optional)	1 x Type II (external access), 1 x Type I (internal access optional)	1 x Type II (external access), 1 x Type I (internal access optional)	1 x Type II (external access), 1 x Type I (internal access optional)	1 x Type II (external access), 1 x Type I (internal access optional)
Mass storage interfaces	Parallel	1 x ATA/66 Master/Slave	1 x ATA/66 Master/Slave	1 x ATA/66 Master/Slave	1 x ATA/66 Master/Slave	1 x ATA/66 Master/Slave
Expansion slots	Type	2 x MiniPCI	2 x MiniPCI	2 x MiniPCI	2 x MiniPCI	2 x MiniPCI
Battery	Type	Coin (CR2032 3V)	Coin (CR2032 3V)	Coin (CR2032 3V)	Coin (CR2032 3V)	Coin (CR2032 3V)
	Removable Lifetime	Yes 2 years	Yes 2 years	Yes 2 years	Yes 2 years	Yes 2 years
Buttons, leds and keys	Reset buttons	System / Watch-dog	System / Watch-dog	System / Watch-dog	System / Watch-dog	System / Watch-dog
	LEDs	Power	Power	Power	Power	Power
Electrical characteristics						
Power supply	Type	Integrated on board, auto ranging	Integrated on board, auto ranging	Integrated on board, auto ranging	Integrated on board, auto ranging	Integrated on board, auto ranging
	Input voltage	18-36 VDC	18-36 VDC	18-36 VDC	18-36 VDC	18-36 VDC
Power consumption	23W@12,1"; 25W@15,0"; 27W@17,0" (ATOM 1.6GHz T/S 1GB RAM)	23W@12,1"; 25W@15,0"; 27W@17,0" (ATOM 1.6GHz T/S 1GB RAM)	23W@12,1"; 25W@15,0"; 27W@17,0" (ATOM 1.6GHz T/S 1GB RAM)	23W@12,1"; 25W@15,0"; 27W@17,0" (ATOM 1.6GHz T/S 1GB RAM)	23W@12,1"; 25W@15,0"; 27W@17,0" (ATOM 1.6GHz T/S 1GB RAM)	23W@12,1"; 25W@15,0"; 27W@17,0" (ATOM 1.6GHz T/S 1GB RAM)
Mechanical characteristics						
Case	Type	Panel mount	Panel mount	Panel mount	Panel mount	Panel mount
	Material	Steel, zinc galvanization	Steel, zinc galvanization	Steel, zinc galvanization	Steel, zinc galvanization	Steel, zinc galvanization
Front panel (note 2)	Protection	IP65	IP65	IP65	IP65	IP65
	Construction Color	Aluminum alloy frame with polycarbonate foil PANTONE 429C	Aluminum alloy frame with polycarbonate foil PANTONE 429C	Aluminum alloy frame with polycarbonate foil PANTONE 429C	Aluminum alloy frame with polycarbonate foil PANTONE 429C	Aluminum alloy frame with polycarbonate foil PANTONE 429C
Measurements (mm)	Type	Aluminium (W x H x D)	Stainless Steel (W x H x D)	Aluminium (W x H x D)	Stainless Steel (W x H x D)	Aluminium (W x H x D)
		335 x 270 x 54	335 x 270 x 54	335 x 270 x 54	335 x 270 x 54	335 x 270 x 54
		390 x 315 x 54	398 x 315 x 54	390 x 315 x 54	398 x 315 x 54	390 x 315 x 54
		455 x 355 x 58	455 x 355 x 58	455 x 355 x 58	455 x 355 x 58	455 x 355 x 58
		490 x 388 x 68	-	490 x 388 x 68	-	490 x 388 x 68
Environmental characteristics	Temperature	Operation	0° + +50°C without HDD, 0° + +45°C with 17", 0° + +45°C with HDD	Operation	0° + +50°C without HDD, 0° + +45°C with 17", 0° + +45°C with HDD	Operation
		Storage	-20° + +60°C	Storage	-20° + +60°C	Storage
Humidity	Operation/Storage	80% (non-condensing)	80% (non-condensing)	80% (non-condensing)	80% (non-condensing)	80% (non-condensing)
		80% (non-condensing)	80% (non-condensing)	80% (non-condensing)	80% (non-condensing)	80% (non-condensing)
Warranty & Approvals						
CE	Emission	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics
		Conforms to EN 61000-3-2 - Limits for harmonic current emissions	Conforms to EN 61000-3-2 - Limits for harmonic current emissions	Conforms to EN 61000-3-2 - Limits for harmonic current emissions	Conforms to EN 61000-3-2 - Limits for harmonic current emissions	Conforms to EN 61000-3-2 - Limits for harmonic current emissions
		Conforms to EN 55024 Information technology equipment - Immunity characteristics	Conforms to EN 55024 Information technology equipment - Immunity characteristics	Conforms to EN 55024 Information technology equipment - Immunity characteristics	Conforms to EN 55024 Information technology equipment - Immunity characteristics	Conforms to EN 55024 Information technology equipment - Immunity characteristics
Warranty	Management Standard Extended	By ASEM headquarters	By ASEM headquarters	By ASEM headquarters	By ASEM headquarters	By ASEM headquarters
		12 months	12 months	12 months	12 months	12 months
Notes	1	With stainless steel front panel, touchscreen in mandatory and have no USB port on the front	With stainless steel front panel, touchscreen in mandatory and have no USB port on the front	With stainless steel front panel, touchscreen in mandatory and have no USB port on the front	With stainless steel front panel, touchscreen in mandatory and have no USB port on the front	With stainless steel front panel, touchscreen in mandatory and have no USB port on the front
		2	RS-232/422/485 standard and optoisolated can be installed one alternative to the other	RS-232/422/485 standard and optoisolated can be installed one alternative to the other	RS-232/422/485 standard and optoisolated can be installed one alternative to the other	RS-232/422/485 standard and optoisolated can be installed one alternative to the other

Fanless

OT1200

OT1200 is a FANLESS PANEL PC that guarantees high performance for maximum system opening. Based on Intel architecture with 915 GME chipsets, 900 GMA video controller and Celeron M ULV processors up to 1GHz and featuring a 400 MHz front side bus, OT1200 comfortably runs the most demanding applications thanks to its high calculating power and graphics processing speed.



Image 1: INOX TrueFlat version

Image 2: Communications ports and UPS

Image 3: Reduced depth version (OT1200-SL)

FEATURES PLUS

- 1 PCI SLOT FOR EXPANSION CARD
- INOX TRUEFLAT FRONT PANEL OPTIONAL
- REAR CHASSIS WITH REDUCED DEPTH OPTIONAL (OT1200-SL)
- UPS OPTIONAL
- 4 FRONTAL KEYS CUSTOMIZABLE OPTIONAL
- DATA STORAGE ON SSD/CF/HDD

System characteristics		8,4"	10,4"	12,1"	12,1"	15"	17"	19"
Display	Size	8,4"	10,4"	12,1"	12,1"	15"	17"	19"
	Type	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT
	Resolution	800 x 600 (SVGA)	800 x 600 (SVGA)	800 x 600 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)
	Colors	256K	256K	256K	256K	16M	16M	16M
	Pixel pitch	0,213 x 0,213mm	0,264 x 0,264mm	0,307 x 0,307mm	0,240 x 0,240mm	0,297 x 0,297mm	0,264 x 0,264mm	0,294 x 0,294mm
	Backlight	CCFL 2 lamps	CCFL 2 lamps	CCFL 2 lamps	CCFL 2 lamps	CCFL 4 lamps	CCFL 2 lamps	CCFL 2 lamps
	Luminance	400cd/m2	400cd/m2	400cd/m2	400cd/m2	450cd/m2	300cd/m2	300cd/m2
Viewing angle	Contrast	250:1	450:1	500:1	500:1	400:1	1000:1	1000:1
	MTTF	120° H, 100° V	120° H, 100° V	120° H, 100° V	120° H, 100° V	160° H, 140° V	160° H, 160° V	160° H, 160° V
Touchscreen Optional	Technology	5 wires – analog - resistive						
	Light transmission	80% ±2%						
	Lifetime	35min activations						
	Linearity deviation	< 1 %						
Motherboard	Interface	Serial						
	Glass Film Glass	Optional for 12", 15" and 17"						
CPU	Model	All-in-one, ASEM MB951						
	HW monitor	Temperature monitor						
	Watch-dog	Time programmable						
	Processor	Intel® Celeron M 600MHz			Intel® Celeron M 1GHz (373)			
Graphic	FSB	400MHz			400MHz			
	Cache	512KB L2			512KB L2			
	Socket	Socket 478 uFC-BGA			Socket 478 uFC-BGA			
	Chipset	Intel® 915GME + ICH6M			Intel® 915GME + ICH6M			
System memory	Controller	GMA900 integrated in Intel® 915GME						
	Memory	Shared - 64MB+128MB system selectable						
Video interfaces	Type	1 x VGA (DB15F)						
	Size	512 MB, 1 GB, 2 GB						
Serial interfaces	Socket	1 x SODIMM module						
	Type	1 x RS-232 (DB9M)						
	UART	16550 compatible (FIFO 16 byte)						
Optional (note 1)	Transfer rate	115Kbps max						
	Optoisolation	No						
	Type	1 x RS-232/422/485 (DB15M)						
Parallel interfaces Optional (note 3)	UART	16550 compatible (FIFO 16 byte)						
	Transfer rate	115Kbps max						
PS/2 interfaces	Optoisolation	No / Yes						
	Type	1 x SPP, EPP, ECP bidirectional						
Ethernet interfaces	Connection	DB25M						
	Type	1 x PS/2 Keyboard / Mouse						
USB interfaces	Type	2 x 10/100Mbps (RJ45)						
	Controller	Intel 8255QM - Intel 82562EZ						
Mass storage interfaces	Type	4 x USB 2.0 (rear, TYPE-A, host port), 1 x USB 2.0 (front, TYPE-A, host port, protected)						
	Transfer rate	Up to 480Mbit (high speed)						
Expansion slots	Type	1 x Type I (internal access), 1 x Type II (external access)						
	Parallel	1 x SATA 1 1.5Gb/s						
Battery	Serial	1 x ATA/100 Master/Slave (dedicated for CF Slots)						
	Type	1 x PC/104 Plus or 1 x PCI half size						
Buttons, leds and keys	Reset button	System / Watch-dog						
	LEDs	Power						
	Function keys	Front: Power / Rear: power, HDD, system fail, watch-dog						
Electrical characteristics								
Power supply	Type	Integrated on board, auto ranging						
	Input voltage	18-36 VDC						
	Power consumption	39W (15" Celeron M 600MHz, T/S, 512MB RAM, CF 512MB, No add-on)						
Mechanical characteristics	UPS	Optional						
	Type	Panel mount						
Case	Material	Steel, nickel treatment						
	Protection	IP65						
Front panel (note 2)	Construction	Aluminum alloy with polycarbonate foil				IP66K		
	Color	PANTONE 429C				Stainless Steel True Flat with polyester foil - RAL 7035		
Measurements mm (note 3)	Aluminum (W x H x D)	Stainless Steel (W x H x D)		Cutout (W x H)		Weight (Kg)		
	8,4"	250 x 210 x 103	-	230 x 190	3,1			
	10,4"	300 x 245 x 103	-	280 x 225	4,0			
	12,1"	335 x 270 x 103	335 x 270 x 103	315 x 250	4,6			
	15"	390 x 315 x 103	398 x 315 x 103	370 x 295	5,3			
	17"	455 x 355 x 103	455 x 355 x 103	435 x 335	6,7			
	19"	490 x 388 x 113	-	470 x 368	7,3			
Environmental characteristics								
Temperature	Operation	0° ± +50°C without HDD, 0° ± +45°C with 17", 0° ± +45°C with HDD						
	Storage	-20° ± +60°C						
Humidity	Operation/Storage	80% (non-condensing)						
Warranty & Approvals								
CE	Emission	Conforms to EN 55022 Information technology equipment – Radio disturbance characteristics						
	Immunity	Conforms to EN 61000-3-2 – Limits for harmonic current emissions						
	Safety	Conforms to EN 61000-3-3 – Limits of voltage fluctuation and flicker						
	Safety	Conforms to EN 55024 Information technology equipment – Immunity characteristics						
UL	Conforms to EN 60950-1 – Information technology equipment – Safety							
	UL, cUL	Conforms to UL-60950-1 – Information technology Equipment - Safety						
Warranty	Marks	2090306-E315863						
	Safety Certificate N°							
Warranty	Management	By ASEM headquarters						
	Standard	12 months						
Notes	Extended	18 / 24 / 36 months (optional)						
	1	RS-232/422/485 standard and optoisolated can be installed one alternative to the other						
2	With stainless steel front panel, touchscreen in mandatory and have no USB port on the front							
3	SL (SLIM) version is 86.5mm depth – parallel interface not available							

Fanless

WS550 WS550-TE

WS550 is the new fanless panel PC with plastic frame and different configurations based on the new ASEM 1021 motherboard that supports the Intel® Core® 2 Duo Ultra Low Voltage microprocessors with the 65 nanometer technology. The new systems are the best answer to the increasing need of the machine builders and system integrators that are looking for high performance solutions, but with a low energy consumption and a great heating dissipation.



Image 1: Keyboardless version

Image 2: 2 PCI/PCIe slots on H3 version

Image 3: Intel Core 2 Duo ULV and 965GME chipset

FEATURES PLUS

- ✕ INTEL CORE 2 DUO ULV U7500 1,06GHZ
- ✕ INTEL 965GME CHIPSET AND INTEL GMA X3100 GRAPHIC ACCELERATOR
- ✕ EXTENDED KEYBOARD VERSION (WS550-TE)
- ✕ AVAILABLE SIDE MODULES WITH BUTTONS PREDISPOSITION, TRACKBALL, TOUCHPAD OR NEUTRAL
- ✕ H3 VERSION FOR PCI/PCIE EXPANSION
- ✕ REAR AND FRONTAL DVD/FDD OPTIONAL
- ✕ FRAMELESS VERSION AVAILABLE (WS550-FL)

System characteristics										
Display	Size	12.1"	12.1"	15"	17"					
	Type	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT					
Touchscreen	Resolution	800 x 600 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)					
	Colors	256K	256K	16M	16M					
	Pixel pitch	0,307 x 0,307mm	0,24 x 0,24mm	0,297 x 0,297mm	0,264 x 0,264mm					
	Backlight	CCFL 2 lamps	CCFL 2 lamps	CCFL 4 lamps	CCFL 4 lamps					
	Luminance	400cd/m2	400cd/m2	450cd/m2	300cd/m2					
	Contrast	500:1	500:1	400:1	1000:1					
	Viewing angle	120° H, 100° V	120° H, 100° V	160° H, 140° V	160° H, 160° V					
	MTTF	60000h	60000h	50000h	50000h					
	Motherboard	Technology	5 wires - analog - resistive							
		Light transmission	80% ±2%							
Lifetime		35mln activations								
Linearity deviation		< 1 %								
CPU	Interface	Serial								
	Glass Film Glass	Optional								
Motherboard	Model	All-in-one, ASEM MB1021								
	HW monitor	Temperature monitor								
	Watch-dog	Time programmable								
CPU	Processor	Intel® Core 2 Duo ULV U75001,06GHz								
	FSB	533MHz								
	Cache	2MB L2								
	Socket	Soldered on board								
Graphic	Chipset	Intel® 965GME + ICH8M								
	Controller	GMA X3100 integrated in Intel® 965GME								
System memory	Memory	Shared - up to 256MB system selectable								
	Type	DDR2 PC5300								
	Size	1 GB, 2 GB, 4GB								
Video interfaces	Socket	2 x SODIMM module								
	Type	1 x VGA (DB15F - max resolution 2048x1536QXGA 60Hz) , 1 x DVI-D (single link - max resolution 1600x1200 UXGA)								
Serial interfaces	Type	2 x RS232 (DB9M)								
	UART	16550 compatible (FIFO 16 byte)								
	Transfer rate	115Kbps max								
	Optoisolation	No								
Optional (note 1)	Type	1 x RS-232/422/485 (DB15M)								
	UART	16550 compatible (FIFO 16 byte)								
	Transfer rate	115Kbps max								
Parallel interfaces	Optoisolation	No / Yes								
	Type	1 x SPP, EPP, ECP bidirectional								
PS/2 interfaces	Connection	DB25M								
	Type	1 x PS/2 Keyboard, 1 x PS/2 Mouse								
Ethernet interfaces	Type	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)								
	Controller	Intel 82551QM, Intel 82566M								
USB interfaces	Type	4 x USB 2.0 (rear, TYPE-A, host port), 2 x USB 2.0 (front, TYPE-A, host port, protected)								
	Transfer rate	Up to 480Mbit (high speed)								
Compact Flash slots	Type	1 x Type II (external access)								
Mass storage interfaces	Serial	3 x SATA 2 3Gb/s								
	Parallel	1 x ATA/100 Master/Slave (dedicated for CF Slot)								
Optical device interfaces	Type	H1		H3 / H1-TE / H3-TE						
	Alternative	-		1 x FDD, 1 x DVD-RW						
Expansion slots	Type	H1 / H1-TE		H3 / H3-TE						
	Alternative	-		2 x PCI half size						
	Alternative	-		1 x PCI, 1 x PCI-e x4 half size on riser card						
Battery	Type	AA Lithium (3.6V)								
	Removable	No								
	Lifetime	20 years								
Buttons, leds and keys	Reset button	System / Watch-dog								
	LEDs	Power, HDD activity, LAN, Alarm fans/temperature								
Electrical characteristics										
Power supply	Type	Integrated on board, auto ranging								
	Input voltage	110±230VAC 140W 18±36 VDC 140W (optional)								
Mechanical characteristics										
Case	Type	Panel mount								
	Material	Steel, nickel treatment								
Front panel	Protection	IP65								
	Construction	Plastic with polycarbonate foil								
	Color	Plastic: RAL 7040 (light grey) / Polycarbonate: Pantone 428C								
Keyboard module TE version	Type	Membrane, alphanumeric								
	Layout	US-International								
Side modules	Function keys	F1-F12, directions and control keys								
	Optional	H1 / H3	H1 / H3		H1-TE / H3-TE					
		4 rows x 2 columns	Yes		Yes					
		Emergency	Yes		Yes					
		Touch pad	No		Yes					
Track ball empty		No		Yes						
Measurements mm	H1	Dimensions (W x H x D)				Cutout (W x H)		Weight (Kg)		
		H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE			
		12.1"	360 x 275 x 59	450 x 360 x 59	335 x 250	425 x 335	6,0	10,1		
		15"	430 x 315 x 59	490 x 430 x 59	405 x 286	465 x 405	7,9	12,0		
		17"	430 x 380 x 59	555 x 430 x 59	405 x 351	530 x 405	8,9	14,1		
		H3	H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE		
		12.1"	360 x 275 x 115	450 x 360 x 115	335 x 250	425 x 335	7,6	10,7		
		15"	430 x 315 x 115	490 x 430 x 115	405 x 286	465 x 405	9,5	12,6		
		17"	430 x 380 x 115	555 x 430 x 115	405 x 351	530 x 405	10,5	14,6		
		Environmental characteristics								
Temperature	Operation	0° ÷ +50°C without HDD, 0° ÷ +45°C with HDD								
	Storage	-20° ÷ +60°C								
Humidity	Operation/Storage	80% (non-condensing)								
Warranty & Approvals										
CE	Emission	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics Conforms to EN 61000-3-2 - Limits for harmonic current emissions Conforms to EN 61000-3-3 - Limits of voltage fluctuation and flicker								
	Immunity	Conforms to EN 55024 Information technology equipment - Immunity characteristics Conforms to EN 60950-1 - Information technology equipment - Safety								
Warranty	Management	By ASEM headquarters								
	Standard	12 months								
Notes	Extended	18 / 24 / 36 months (optional)								
	1	RS-232/422/485 standard and optoisolated and parallel port can be installed one alternative to the others								

Fanless

FT500 FT500-TE

Family FT500 fanless systems offer Celeron M ULV CPU together with aluminium front frame with or without extended keyboard. Touch screen LCD can be 12.1", 15" and 17". The front panel, IP65 rated, hosts two USB ports protected by a rubber cap. FT500 systems fit fanless customer need with an elegant design.



Image 1: Keyboardless version
Image 2: 2 PCI/PCIe slots on H3 version
Image 3: Rear optical drives

FEATURES PLUS

- INTEL CELERON M 373 ULV 1GHZ
- EXTENDED KEYBOARD VERSION (FT500-TE)
- H3 VERSION FOR PCI/PCIE EXPANSION
- REAR DVD/FDD OPTIONAL

System characteristics										
Display	Size	12.1"	15"	17"						
	Type	Color LCD TFT	Color LCD TFT	Color LCD TFT						
Touchscreen	Resolution	800 x 600 (SVGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)						
	Colors	256K	16M	16M						
	Pixel pitch	0,307 x 0,307mm	0,297 x 0,297mm	0,264 x 0,264mm						
	Backlight	CCFL 2 lamps	CCFL 4 lamps	CCFL 2 lamps						
	Luminance	400cd/m2	450cd/m2	300cd/m2						
	Contrast	500:1	400:1	1000:1						
	Viewing angle	120° H, 100° V	160° H, 140° V	160° H, 160° V						
	MTTF	60000h	50000h	50000h						
	Technology	Technology	5 wires - analog - resistive							
		Light transmission	80% ±2%							
Lifetime		35min activations								
Linearity deviation		< 1 %								
Interface	Interface	Serial								
	Glass Film Glass	Optional								
Motherboard	Model	All-in-one, ASEM MB921								
	HW monitor	Temperature monitor								
	Watch-dog	Time programmable								
CPU	Processor	Intel® Celeron M 373 ULV 1GHz								
	FSB	400MHz								
	Cache	512KB L2								
	Socket	Socket 478 uFC-BGA								
	Chipset	Intel® 915GME + ICH6M								
Graphic	Controller	GMA900 integrated in Intel® 915GME								
	Memory	Shared - 64MB+128MB system selectable								
System memory	Type	DDR2 PC5300								
	Size	512 MB, 1 GB, 2 GB								
Video interfaces	Socket	2 x SODIMM module								
	Type	1 x VGA (DB15F)								
Serial interfaces	Type	2 x RS232 (DB9M)								
	UART	16550 compatible (FIFO 16 byte)								
	Transfer rate	115Kbps max								
	Optoisolation	No								
Optional (note 1)	Type	1 x RS-232/422/485 (DB15M)								
	UART	16550 compatible (FIFO 16 byte)								
	Transfer rate	115Kbps max								
	Optoisolation	No / Yes								
Parallel interfaces	Type	1 x SPP, EPP, ECP bidirectional								
	Connection	DB25M								
PS/2 interfaces	Type	1 x PS/2 Keyboard, 1 x PS/2 Mouse								
	Controller	2 x 10/100Mbps (RJ45)								
Ethernet interfaces	Type	Intel 82559ER								
	Controller									
USB interfaces	Type	4 x USB 2.0 (rear, TYPE-A, host port), 2 x USB 2.0 (front, TYPE-A, host port, protected)								
	Transfer rate	Up to 480Mbit (high speed)								
Compact Flash slots	Type	1 x Type II (external access)								
	Serial	2 x SATA 1 1.5Gb/s								
Mass storage interfaces	Parallel	1 x ATA/100 Master/Slave (dedicated for CF Slots)								
	Type									
Optical device interfaces	Type	H1		H3 / H1-TE / H3-TE						
	Alternative	-		1 x FDD, 1 x DVD-RW						
Expansion slots	Type	H1 / H1-TE		H3 / H3-TE						
	Alternative	-		2 x PCI half size						
Battery	Type	AA Lithium (3.6V)		1 x PCI, 1 x PCI-e x1 half size on riser card						
	Removable	No								
	Lifetime	20 years								
Buttons, leds and keys	Reset button	System / Watch-dog								
	LEDs	Power, HDD activity, LAN, Alarm fans/temperature								
Electrical characteristics										
Power supply	Type	Integrated on board, auto ranging								
	Input voltage	110-230VAC 140W 18-36 VDC 140W (optional)								
Mechanical characteristics										
Case	Type	Panel mount								
	Material	Steel, nickel treatment								
Front panel	Protection	IP65								
	Construction	Aluminum with polycarbonate foil								
	Color	Polycarbonate: Pantone 429C								
Keyboard module TE version	Type	Membrane, alphanumeric								
	Layout	US-International								
Measurements mm	Function keys	Dimensions (W x H x D)				Cutout (W x H)		Weight (Kg)		
		H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE	H1 / H3	H1-TE / H3-TE	
Environmental characteristics	Temperature	Operation	0° ÷ +50°C without HDD, 0° ÷ +45°C with HDD							
		Storage	-20° ÷ +60°C							
	Humidity	Operation/Storage	80% (non-condensing)							
	Warranty & Approvals									
	CE	Emission	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics							
Conforms to EN 61000-3-2 - Limits for harmonic current emissions										
Conforms to EN 61000-3-3 - Limits of voltage fluctuation and flicker										
Warranty	Immunity	Conforms to EN 55024 Information technology equipment - Immunity characteristics								
		Conforms to EN 60950-1 - Information technology equipment - Safety								
		By ASEM headquarters								
Notes	1	12 months								
		18 / 24 / 36 months (optional)								
RS-232/422/485 standard and optoisolated and parallel port can be installed one alternative to the others										

Fanless

FT550 FT550-TE

FT550 is the new fanless panel PC with aluminium frame and different configurations based on the new ASEM 1021 motherboard that supports the Intel® Core® 2 Duo Ultra Low Voltage microprocessors with the 65 nanometer technology. The new systems are the best answer to the increasing need of the machine builders and system integrators that are looking for high performance solutions, with a low energy consumption and a great heating dissipation.

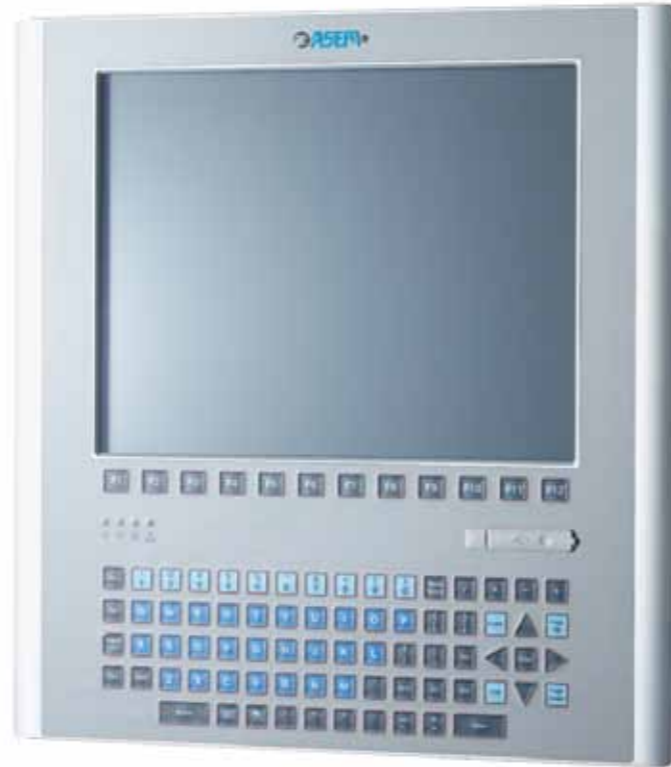


Image 1: Keyboardless version
Image 2: 2 PCI/PCIe slots on H3 version
Image 3: Intel Core 2 Duo ULV and 965GME chipset

FEATURES PLUS

- ✕ INTEL CORE 2 DUO ULV U7500 1,06GHZ
- ✕ INTEL 965GME CHIPSET AND INTEL GMA X3100 GRAPHIC ACCELERATOR
- ✕ EXTENDED KEYBOARD VERSION (FT550-TE)
- ✕ H3 VERSION FOR PCI/PCIE EXPANSION
- ✕ REAR DVD/FDD OPTIONAL
- ✕ INOX TRUEFLAT FRONT PANEL OPTIONAL
- ✕ FT550 ALSO WITH ALUMINIUM FRONT PANEL 19"

System characteristics												
Display	Size	12,1"	12,1"	15"	17"	19"						
	Type	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT	Color LCD TFT						
Touchscreen	Resolution	800 x 600 (SVGA)	1024 x 768 (XGA)	1024 x 768 (XGA)	1280 x 1024 (SXGA)	1280 x 1024 (SXGA)						
	Colors	256K	256K	16M	16M	16M						
	Pixel pitch	0,307 x 0,307mm	0,24 x 0,24mm	0,297 x 0,297mm	0,264 x 0,264mm	0,294 x 0,294mm						
	Backlight	CCFL 2 lamps	CCFL 2 lamps	CCFL 4 lamps	CCFL 2 lamps	CCFL 2 lamps						
	Luminance	400cd/m2	400cd/m2	450cd/m2	300cd/m2	300cd/m2						
	Contrast	500:1	500:1	400:1	1000:1	1000:1						
	Viewing angle	120° H, 100° V	120° H, 100° V	160° H, 140° V	160° H, 160° V	160° H, 160° V						
	MT F	60000h	60000h	50000h	50000h	-						
	Motherboard	Technology	5 wires - analog - resistive									
		Light transmission	80% ±2%									
Lifetime		35min activations										
Linearity deviation		< 1 %										
CPU	Interface	Serial										
	Glass Film Glass	Optional										
Motherboard	Model	All-in-one, ASEM MB1021										
	HW monitor	Temperature monitor										
	Watch-dog	Time programmable										
	Processor	Intel® Core 2 Duo ULV U75001,06GHz										
Graphic	FSB	533MHz										
	Cache	2MB L2										
	Socket	Soldered on board										
	Chipset	Intel® 965GME + ICH8M										
System memory	Controller	GMA X3100 integrated in Intel® 965GME										
	Memory	Shared - up to 256MB system selectable										
Video interfaces	Type	DDR2 PC5300										
	Size	1 GB, 2 GB, 4GB										
Serial interfaces	Socket	2 x SODIMM module										
	Type	1 x VGA (DB15F - max resolution 2048x1536QXGA 60Hz) , 1 x DVI-D (single link - max resolution 1600x1200 UXGA)										
Optional (note 1)	Type	2 x RS232 (DB9M)										
	UART	16550 compatible (FIFO 16 byte)										
	Transfer rate	115Kbps max										
	Optoisolation	No										
Parallel interfaces	Type	1 x RS-232/422/485 (DB15M)										
	Optional	16550 compatible (FIFO 16 byte)										
PS/2 interfaces	Transfer rate	115Kbps max										
	Optoisolation	No / Yes										
Ethernet interfaces	Type	1 x SPP, EPP, ECP bidirectional										
	Optional	DB25M										
USB interfaces	Type	1 x PS/2 Keyboard, 1 x PS/2 Mouse										
	Transfer rate	1 x 10/100Mbps (RJ45), 1 x 10/100/1000Mbps (RJ45)										
Mass storage interfaces	Type	Intel 82551QM, Intel 82566M										
	Parallel	4 x USB 2.0 (rear, TYPE-A, host port), 2 x USB 2.0 (front, TYPE-A, host port, protected)										
Optical device interfaces	Type	Up to 480Mbit (high speed)										
	Alternative	1 x Type II (external access)										
Expansion slots	Type	3 x SATA 2 3Gb/s										
	Alternative	1 x ATA/100 Master/Slave (dedicated for CF Slot)										
Battery	Type	AA Lithium (3.6V)										
	Removable	No										
Buttons, leds and keys	Lifetime	20 years										
	LEDs	Reset button										
Electrical characteristics	Type	System / Watch-dog										
	Input voltage	Power, HDD activity, LAN, Alarm fans/temperature										
Mechanical characteristics	Type	Panel mount										
	Material	Steel, nickel treatment										
Front panel	Protection	IP65										
	Construction	Aluminum with polycarbonate foil										
Keyboard module TE version	Color	Polycarbonate: Pantone 429C										
	Type	Membrane, alphanumeric										
Measurements mm	Layout	US-International										
	Function keys	F1-F12, directions and control keys										
Dimensions (W x H x D)	H1	12,1"	H1 / H3		H1 / H3		H1 / H3		H1 / H3		Weight (Kg)	
		15"	355 x 270 x 81	400 x 360 x 81	335 x 250	380 x 335	6,0	9,0				
	17"	425 x 305 x 81	440 x 425 x 81	405 x 285	420 x 405	7,9	11,0					
	19"	455 x 355 x 81	485 x 455 x 81	435 x 335	465 x 435	8,9	13,0					
	H3	12,1"	355 x 270 x 137	450 x 360 x 115	335 x 250	380 x 335	7,6	10,5				
		15"	425 x 305 x 137	490 x 430 x 115	405 x 285	420 x 405	9,5	12,0				
	17"	455 x 355 x 137	555 x 430 x 115	435 x 335	465 x 435	10,5	14,0					
	19"	490 x 388 x 147	-	470 x 368	-	11,5	-					
	Environmental characteristics	Operation	0° ÷ +50°C without HDD, 0° ÷ +45°C with HDD									
			-20° ÷ +60°C									
	Humidity	Operation/Storage	80% (non-condensing)									
Warranty & Approvals	Emission	Conforms to EN 55022 Information technology equipment - Radio disturbance characteristics										
		Conforms to EN 61000-3-2 - Limits for harmonic current emissions										
Warranty	Immunity	Conforms to EN 61000-3-3 - Limits of voltage fluctuation and flicker										
		Conforms to EN 55024 Information technology equipment - Immunity characteristics										
	Standard	Conforms to EN 60950-1 - Information technology equipment - Safety										
		By ASEM headquarters										
Extended	12 months											
	18 / 24 / 36 months (optional)											
Notes	1											
	2											