

# FT650 FT650-TE

FT650 is a panel PC, with elegant front aluminium frame, based on the ASEM 1021 motherboard that supports Intel® Celeron Dual Core, Pentium Dual Core and Core® 2 Duo processors with 45 nanometer technology. Available with 12.1", 15", 17" and 19" LCD display, also touchscreen, the FT650 systems ensure high computing power and graphics capabilities. The expandability is provided by different PCI/PCIe slot configurations, where ASEM NETcore® X communication cards can be installed. The integration with the Premium HMI 4 software platform and CODESYS SoftPLC allows the creation of visualization and control applications.

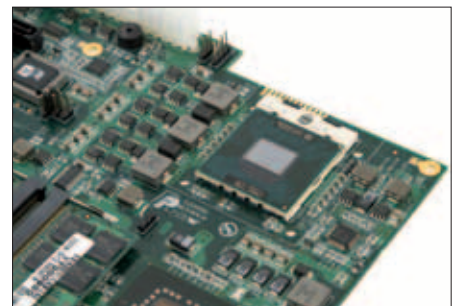


Photo 1: Version without the keyboard

Photo 2: 4 PCI/PCIe slots in the H4 version

Photo 3: Intel® Core 2 Duo microprocessors and 965GME chipset

### FEATURES PLUS

- ✓ INTEL® CORE 2 DUO UP TO 2.5GHZ
- ✓ INTEL® 965GME CHIPSET AND INTEL® GMA X3100 GRAPHIC ACCELERATOR
- ✓ VERSION WITH EXPANDED KEYBOARD (FT650-TE)
- ✓ RAID CONTROLLER INTEGRATED - RAID 0,1 - H2 VERSION
- ✓ H3 AND H4 VERSIONS FOR PCI/PCIE EXPANSIONS
- ✓ OPTIONAL FRONT OR REAR DVD/FDD
- ✓ OPTIONAL TRUEFLAT FRONT PANEL IN STAINLESS STEEL
- ✓ FT650 ALSO WITH 19" FRONT PANEL

System characteristics									
Display	Size Type Resolution Colors Pixel pitch Backlight Luminance Contrast Viewing angle L:R/U:L Lifetime (min.)	12,1" Color LCD TFT 800 x 600 (SVGA) 16M 0,307 x 0,307mm LED 500cd/m <sup>2</sup> 800:1 80°: 80°/80°: 60° 100.000h	12,1" XGA Color LCD TFT 1024 x 768 (XGA) 16.2M 0,240x0,240mm LED 600cd/m <sup>2</sup> 700:1 80°: 80°/70°: 70° 50.000h	15" Color LCD TFT 1024 x 768 (XGA) 16M 0,297 x 0,297mm LED 450cd/m <sup>2</sup> 700:1 80°: 80°/70°: 70° 35.000h	17" Color LCD TFT 1280 x 1024 (SXGA) 16M 0,264 x 0,264mm CCFL 2 lamps 300cd/m <sup>2</sup> 1000:1 160° H, 160° V 50.000h	19" Color LCD TFT 1280 x 1024 (SXGA) 16M 0,294 x 0,294mm CCFL 2 lamps 300cd/m <sup>2</sup> 1000:1 160° H, 160° V -			
Touchscreen	Technology Light transmission Lifetime Linearity deviation Interface Glass Film Glass	5 wires – analog - resistive 80% ±2% 35min activations < 1 % Serial Optional							
Motherboard	Model HW monitor Watch-dog	All-in-one, ASEM MB1021/GA Voltages and temperatures monitor Time programmable							
CPU	Processor FSB Cache Socket Chipset	Intel® Pentium dual core T4400 2,2GHz 800MHz 1MB L2 Socket P Intel® 965GME + ICH8EM		Intel® Core 2 Duo T6400 2GHz 800MHz 2MB L2 Socket P Intel® 965GME + ICH8EM	Intel® Core 2 Duo T8300 2.5GHz 800MHz 6MB L2 Socket P Intel® 965GME + ICH8EM				
Raid	Controller Raid mode	Integrated in version H2, optional for H3-H4 0,1							
Graphic	Controller Memory	GMA X3100 integrated in Intel® 965GME Shared – up to 256MB system selectable							
System memory	Type Size Socket	DDR2 PC5300 1 GB, 2 GB, 4GB 2 x SODIMM module							
Video interfaces	Type	1 x VGA (DB15F - max resolution 2048x1536QXGA 60Hz) , 1 x DVI-D (single link – max resolution 1600x1200 UXGA)							
Serial interfaces	Type UART Transfer rate Optoisolation	2 x RS232 (DB9M) 16550 compatible (FIFO 16 byte) 115Kbps max No							
Optional (note 1)	Type UART Transfer rate Optoisolation	1 x RS-232/422/485 (DB15M) 16550 compatible (FIFO 16 byte) 115Kbps max No / Yes							
Parallel interfaces Optional	Type Connection	1 x SP, EPP, ECP bidirectional DB25M							
PS/2 interfaces	Type	1 x PS/2 Keyboard, 1 x PS/2 Mouse							
Ethernet interfaces	Type Controller	2 x 10/100/1000Mbps (RJ45) Intel 82566MM, Intel 82574L							
USB interfaces	Type Transfer rate	4 x USB 2.0 (rear, TYPE-A, host port, protected), 2 x USB 2.0 (front, TYPE-A, host port, protected), 2 x USB 2.0 (internal pin strip, host port, protected) Up to 480Mbit/s (high speed)							
Compact Flash slots	Type	1 x Type II (external access)							
Mass storage interfaces	Serial Parallel	3 x SATA 2 3Gb/s 1 x ATA/100 Master/Slave (dedicated for CF Slot)							
Optical device interfaces	Type	H1 / H2 -	H3 / H4 / H1-TE / H2-TE / H3-TE / H4-TE 1 x FDD, 1 x DVD-RW						
Expansion slots	Type <i>alternative</i>	H1 / H1-TE / H2 / H2-TE -	H3 / H3-TE 2 x PCI half size 1 x PCI, 1 x PCI-e x4 half size on riser card	H4 / H4-TE 3 x PCI, 1 x PCI-e x4 half size on riser card 2 x PCI, 1 x PCI-e x4, 1 x PCI-e x1 half size on riser card					
Battery	Type Removable Lifetime	½AA Lithium (3.6V) Yes 20 years							
Buttons, leds and keys	Reset button LEDs	Yes Power, HDD activity, LAN, Alarm fans/temperature							
Electrical characteristics									
Power supply	Type Input voltage  Power consumption	Auto ranging 110-230VAC 140W 18÷36 VDC 140W ( <i>optional</i> ) 65W @ FT650 H1, 15", T/S, Core 2 Duo 2,4GHz, 1GB RAM, CF							
Mechanical characteristics									
Case	Type Material	Panel mount Steel, nickel treatment							
Front panel (note 2)	Protection Construction Color	IP65 Aluminum with polycarbonate foil PANTONE 429C	IP66K Stainless Steel True Flat with polyester foil RAL 7035						
Keyboard module TE version	Type Layout Function keys	Membrane, alphanumeric US-International F1-F12, directions and control keys							
Measurements mm	H1(H2)	Dimensions (W x H x D)				Cutout (W x H)		Weight (Kg)	
		12,1"	FT650 355 x 270 x 81 (99)	FT650-TE 360 x 400 x 81 (99)	Stainless Steel -	FT650 335 x 250	FT650-TE 335 x 380	FT650 6,0	FT650-TE 9,0
	15"	425 x 305 x 81 (99)	425 x 440 x 81 (99)	-	405 x 285	405 x 420	7,9	11,0	
	17"	455 x 355 x 81 (99)	455 x 485 x 81 (99)	455 x 355 x 81	435 x 335	435 x 465	8,9	13,0	
	19"	490 x 388 x 91 (109)	-	490 x 388 x 91	470 x 368	-	9,9	-	
	H3	12,1"	355 x 270 x 137	360 x 400 x 137	-	335 x 250	335 x 380	7,6	10,5
		15"	425 x 305 x 137	425 x 440 x 137	-	405 x 285	405 x 420	9,5	12,0
		17"	455 x 355 x 137	455 x 485 x 137	455 x 355 x 137	435 x 335	435 x 465	10,5	14,0
		19"	490 x 388 x 147	-	490 x 388 x 147	470 x 368	-	11,5	-
	H4	12,1"	355 x 270 x 175	360 x 400 x 175	-	335 x 250	335 x 380	8,8	11,7
		15"	425 x 305 x 175	425 x 440 x 175	-	405 x 285	405 x 420	10,7	13,2
		17"	455 x 355 x 175	455 x 485 x 175	455 x 355 x 175	435 x 335	435 x 465	11,5	15,2
19"		490 x 388 x 185	-	490 x 388 x 185	470 x 368	-	12,5	-	
Environmental characteristics									
Temperature	Operation Storage	0° ± +50°C without HDD, 0° ± +45°C with HDD -20° ± +60°C							
Humidity	Operation/Storage	80% (non-condensing)							
Warranty & Approvals									
CE	Emission  Immunity Safety	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 Conforms to EN 55024 Information technology equipment – Immunity characteristics Conforms to EN 60950-1 – Information technology equipment – Safety							
UL	Marks Safety Certificate N°	 Conforms to UL-60950-1 – Information technology Equipment - Safety 20120524-E315863							
Warranty	Management Standard Extended	By ASEM headquarters 12 months 18 / 24 / 36 months (optional)							
Notes									
1	RS-232/422/485 standard and optoisolated and parallel port can be installed one alternative to the others								
2	With stainless steel front panel, touchscreen is mandatory and have no USB port on the front								