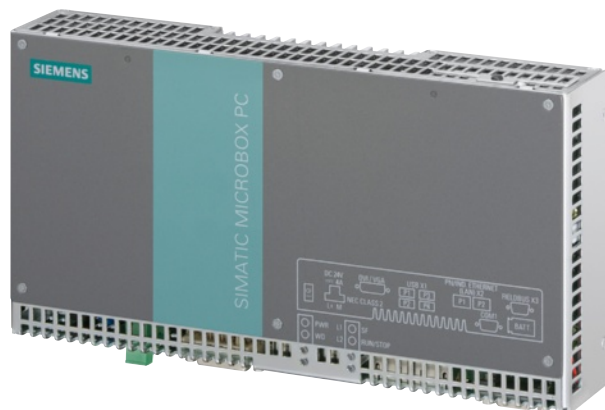


SIMATIC IPC427C



SIMATIC IPC427C (bottom side), PROFIBUS version



SIMATIC IPC427C (bottom side), PROFINET version

SIMATIC IPC427C (Microbox PC): The powerful embedded IPC – maintenance-free with versatile configuration:

- Ultra-compact
- Maintenance-free
- Intel Core2 Duo technology

Design

Basic design

- All-metal enclosure, resistant to vibrations and shocks, also with high electromagnetic compatibility
- Graphics onboard, on AGP bus: DVI-I: VGA (analog) and DVI (digital)
 - CRT resolution: Up to 1920 x 1200 pixels / true color / 60 to 120 Hz
 - DVI-D resolution: Up to 1920 x 1200 pixels / true color
- Optical drives can be connected externally via USB interface, not included in scope of supply
- Interfaces (accessible from one side):
 - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45)
 - 4 x high-speed USB V2.0
 - 1 x COM1 (RS232)
- Free slots (when using the expansion rack):
 - Up to 3 x PCI104-Plus cards
- Isolated power supply: 24 V DC (19.2 to 28.8 V)

Design versions

- Processor:
 - Intel Core2 Duo 1.2 GHz, 800 MHz FSB, SLC 3 MB
 - Intel Core2 Solo 1.2 GHz, 800 MHz FSB, SLC 3 MB
 - Intel Celeron M 1.2 GHz, 800 MHz FSB, SLC 1 MB
- Primary storage capacity of 1 GB to (2/4 GB optional), DDR3 SDRAM
- Fieldbus
 - PROFINET onboard, 3 x RJ45, CP16116-compatible
 - PROFIBUS DP/MPI on board, compatible with CP 5611
- Hardware expansion:
 - Second RS232 interface (COM2) in expansion rack
- Drives:
 - Solid-State Drive 50 GB High Endurance or 80 GB Standard, rugged alternative to hard disk
 - FlashDrive (replaceable, accessible): 2 GB, 4 GB, 8 GB or 16 GB
 - FlashDrive (internal, not accessible): 2 GB, 4 GB, 8 GB, 16 GB
 - Hard disk serial ATA, 2.5"
- Pre installed operating systems:
 - Windows XP Embedded Standard 2009 (successor to Windows XP Embedded)
 - Windows XP Professional Multi-Language
 - Windows 7 Ultimate MUI
 - Windows Embedded Standard 7

Technical specifications Box PC SIMATIC IPC 427C

General features		Drives	
Design	DIN rail or wall mounting, front upright mounting, mounting position preferably horizontal, vertical possible	Flash drive	<u>Optional; replaceable, accessible, diagnosable</u> <ul style="list-style-type: none"> • 2 GB • 4 GB • 8 GB • 16 GB <u>Optional; internal, not accessible, diagnosable</u> <ul style="list-style-type: none"> • 2 GB • 4 GB • 8 GB • 16 GB
Processor	<ul style="list-style-type: none"> • Intel Core2 Duo 1.2 GHz, 800 MHz FSB, SLC 3 MB • Intel Core2 Solo 1.2 GHz, 800 MHz FSB, SLC 3 MB • Intel Celeron M 1.2 GHz, 800 MHz FSB, SLC 1 MB 	Solid-State Drive (SSD)	<u>Optional</u> <ul style="list-style-type: none"> • 50 GB SATA, 2.5" in single-level cell (SLC) architecture (High Endurance), especially suitable for industrial applications • 80 GB SATA, 2.5" Standard
Chipset	Intel GM45 / ICH9M	Hard disk	<u>Optional</u> > 250 GB SATA
Main memory	1 GB, (2/4 GB) DDR3 SDRAM	CD-ROM	Via USB (not included in scope of delivery)
Buffered SRAM	2 MB, of which 128 KB can be written within the buffer time	DVD-RW	Via USB (not included in scope of delivery)
Free slots for expansions	Up to 3 x PCI-104, 3 W per slot	Diskette	Via USB (not included in scope of delivery)
Graphics	<ul style="list-style-type: none"> • Integrated Intel GMAX4500 graphics • 8 ... 512 MB shared graphics memory (managed dynamically) • CRT resolution: 640 x 480 pixels up to max. 1920 x 1200 pixels at 32 bit colors • DVI-D resolution: 640 x 480 pixels up to max. 1920 x 1200 pixels at 32 bit colors 	Interfaces	
Operating system	<ul style="list-style-type: none"> • Without • Windows XP Embedded Standard 2009 preinstalled, in combination with CF card of 2 GB or more, solid-state drive, or hard drive • Windows XP Professional MUI (in combination with solid-state drive or hard drive; MUI: Multi Language User Interface) • Windows 7 Ultimate MUI (in combination with solid-state drive or hard drive; MUI: Multi Language User Interface) • Windows Embedded Standard 7 pre-installed, in combination with CF card of 4 GB or more, or solid-state drive, or hard drive RMOS3 (can be ordered separately) • Linux¹⁾ (project-specific, on request) • Others on request project-specifically 	PROFINET	3 x RJ45 (CP 1616-compatible, optional)
Power supply	<ul style="list-style-type: none"> • 24 V DC (19.2 V ... 28.8 V) • Isolated • With buffering of temporary power failures: Max. 10 ms at 0.85% rated voltage • Line side switch • With power failure indication by means of Power Fail signa 	PROFIBUS/MPI	12 Mbit/s (isolated, compatible to CP 5611) optional
	I	Ethernet	<ul style="list-style-type: none"> • 2 x 10/100/1000 Mbit/s (RJ 45) • Two independent Intel 82574L controllers (via PCI-Express) • One controller with none-shared interrupt • With teaming function
		USB	V2.0/High Speed: 4 x
		Serial	COM1 (V.24) COM2 (V.24) optional (in expansion frame)
		DVI-I	1 x DVI-I (includes DVI-D and VGA)
		Keyboard	Via USB (not included in scope of delivery)
		Mouse	Via USB (not included in scope of delivery)

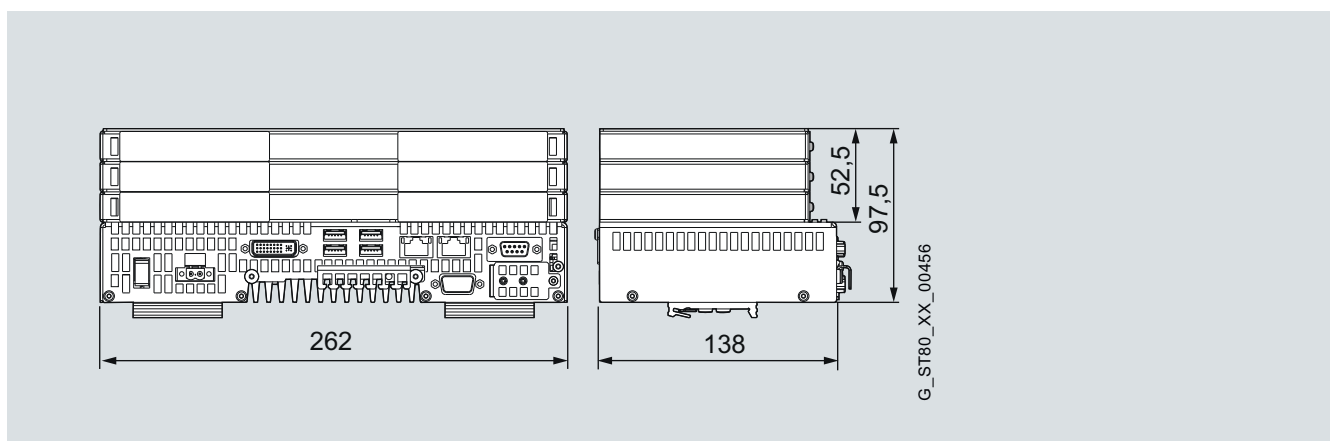
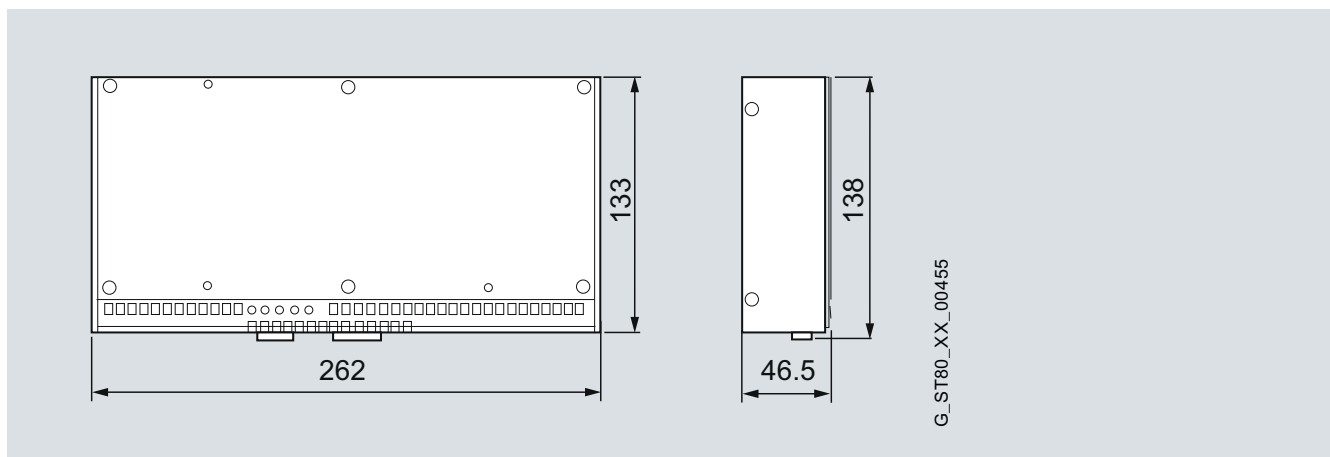
Monitoring functions			
Temperature	<ul style="list-style-type: none"> • Processor temperature • Motherboard • Messages can be evaluated by the application program 		
Watchdog	<ul style="list-style-type: none"> • Monitoring of program execution • Monitoring time can be parameterized in software • Can be parameterized for a fault or restart • Messages can be evaluated by the application program. 		
Monitoring functions via the network	<ul style="list-style-type: none"> • DiagBase • SIMATIC PC DiagMonitor <u>Remote monitoring capability for:</u> <ul style="list-style-type: none"> • Watchdog • Temperature • Mass memory monitoring (SMART) • System / Ethernet monitoring (Heartbeat) • Runtime meter <u>Communication:</u> <ul style="list-style-type: none"> • Ethernet interface (SNMP protocol) • OPC for integration in SIMATIC software • Configuration of client/server architectures • Layout of log files 		
Ambient conditions			
Degree of protection to EN 60529 (front/rear)	IP20		
Vibration load during operation	<u>Devices without hard disk:</u> <ul style="list-style-type: none"> • Requirements according to: IEC 61131-2 • Tested according to: IEC 60068-2-6, Test Fc • Devices without drive: <ul style="list-style-type: none"> - 5-9 Hz, 3.5 mm deviation, 10x /axis, 1 octave/min - 9-150 Hz, 9.8 m/s², 10x /axis, 1 octave/min <u>Devices with hard disk: Wall mounting</u> <ul style="list-style-type: none"> • Requirements according to: IEC 61131-2 • Tested according to: IEC 60068-2-6, Test Fc • 10 ... 58 Hz, 0.0375 mm deviation, 10x /axis, 1 octave/min • 58 ... 200 Hz, 4.9 m/s², 10x /axis, 1 octave/min 		
Shock loading during operation		<u>Devices without hard disk:</u> <ul style="list-style-type: none"> • Requirements according to: IEC 61131-2 • Tested according to: IEC 60068-2-27, Test Ea • Module/rack: 150 m/s², power-up, 11 ms shock duration <u>Devices with hard disk: Wall mounting</u> <ul style="list-style-type: none"> • Requirements according to: IEC 61131-2 • Tested according to: IEC 60068-2-27, Test Ea • Devices with drive: 50 m/s², power-up, 30 ms shock duration 	
Electromagnetic compatibility (EMC)			
• Emitted interference		EN 55022 Class B	
• Interference immunity, burst		EN 61000-6-2 or IEC 61131-2: <ul style="list-style-type: none"> • 2 kV - Tested acc. to IEC 61000-4-4 • 1 kV symmetrical / 2 kV asymmetrical - Tested acc. to IEC 61000-4-5 	
• Interference immunity, surge		1 kV to IEC 61000-4-5; symmetrical 2 kV to IEC 61000-4-5; asymmetrical	
• ESD interference immunity		According to NAMUR Recommendation NE 21 and EN 61000-6-2: <ul style="list-style-type: none"> • 6 kV contact discharge - Tested acc. to IEC 61000-4-2 • 8 kV air discharge - Tested acc. to IEC 61000-4-2 	
• Immunity to high radio frequency interference		According to EN 61000-6-2 or IEC 61131-2: <ul style="list-style-type: none"> • Interference immunity 80 ... 1000 MHz: 10 V/m with 80% AM (1 kHz); tested acc. to IEC 61000-4-3; • 1.4 GHz ... 2 Hz: 10 V/m with 50% pulse modulation; tested according to IEC 61000-4-3 	
• Immunity to high-frequency current feed		Acc. to NAMUR Recommendation NE 21 and EN 61000-6-2 or IEC 61131-2: <ul style="list-style-type: none"> • 10 kHz ... 80 MHz: 10 V with 80% AM (1 kHz) tested acc. to IEC 61000-4-6 	
• Immunity to magnetic fields		Acc. to NAMUR Recommendation NE 21 and EN 61000-6-2 or IEC 61131-2: <ul style="list-style-type: none"> • 50/60 Hz; 100 A/m rms value - tested acc. to IEC 61000-4-8 	
Ambient temperature during operation		<ul style="list-style-type: none"> • 0 ... 55 °C with flash drive/SSD (horizontal; preferred mounting position; with derating) • 0 ... 50 °C with flash drive/SSD (horizontal; preferred mounting position; maximum configuration) • 0 ... 50 °C with flash drive/SSD (vertical) • 5 ... 40 °C with hard disk (horizontal and vertical) 	
Moist heat		<ul style="list-style-type: none"> • With CompactFlash card/SSD: 95 % • With hard drive 80% 	

System-tested SIMATIC Industrial Software	WinAC RTX (F), WinCC flexible, WinCC (SCADA as of V7.0), WinCC RT Advanced and Professional
Approvals	
Marine approval Only for configurations with CompactFlash or SSD memory	<ul style="list-style-type: none"> • GL - Germanische Lloyd • BV - Bureau Veritas • LR - Lloyds Register of Shipping • ABS - American Bureau of Shipping • DNV - Det Norske Veritas • NKK - Nippon Kaiji Kyokai
Safety regulations	<ul style="list-style-type: none"> • IEC 61131-2 • IEC 61010-1 • EN 60950-1
Approvals	UL508, UL60950, cULus

CE mark	<ul style="list-style-type: none"> • EC Directive 89/336/EEC (EMC Directive) • Use in industry: <ul style="list-style-type: none"> - Emitted interference: EN 61000-6-4 - Noise immunity: EN 61000-6-2 • Applications in residential areas, business and trade environments as well as in workshops: <ul style="list-style-type: none"> - Emitted interference: EN 61000-6-3 - Noise immunity: EN 61000-6-1
Dimensions and weights	
Equipment dimensions (in mm)	<ul style="list-style-type: none"> • Width x height: 262 x 134 • Depth of basic unit: 47 • Depth of basic unit above rail: 50 • Additional depth per expansion (1-3): 17 each
Weight, approx.	2 kg

1) Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for LINUX", see <http://www.siemens.de/simatic-pc/geeignet-fuer-linux> (LINUX is a trademark of Linus Torvald).

Dimensional drawings (dimensions in mm)



SIMATIC IPC – the more Industrial PC	
More information on SIMATIC IPC is available at:	www.siemens.com/simatic-ipc
A current overview of the configurations is provided by the SIMATIC IPC Online-Konfigurator:	www.siemens.com/ipc-configurator
In-depth information is available in the SIMATIC manuals:	www.siemens.com/simatic-doku
Information material for download:	www.siemens.com/simatic/printmaterial
Technical documentation is available in our Service& Support portal:	www.siemens.com/automation/support
Your personal contact partner is listed at:	www.siemens.com/automation/partner
Electronic ordering via the Internet with the Mall:	www.siemens.com/industrymall
Additional information on PC-based Automation with SIMATIC is available under:	www.siemens.com/pc-based-automation
Additional information on the TIA Portal:	www.siemens.com/tia-portal
Additional information on SIMATIC Safety Integrated:	www.siemens.com/f-cpu
Online Service Tool PED – for fast information on the equipment of your SIMATIC PC and the management of your field inventory:	www.siemens.com/ped