SIEMENS

Product Data Sheet

SIMATIC IPC427D

SIMATIC IPC427D (Microbox PC): The powerful embedded IPC - maintenance-free with versatile configuration

- Ultra-compact and maintenance-free
- Third generation Intel Core i technology

High data processing speed for high productivity

- Up to Core I 7, fan-free
- DDR3 memory technology up to 8 GB

Maximum compactness and ruggedness for use directly on the machine

- Low mounting depth, ambient temperature up to 55 °C
- Upright mounting as second standard mounting position (ambient temperature 50 °C)
- Solid State Drive (SSD) (50 GB high endurance or 80 GB standard, optional), SATA hard disk, or up to 2 CFast cards with 16 GB

High degree of industrial functionality and flexibility for implementing embedded solutions

- Flexible memory concepts (e.g. 2 mass storage units possible)
- 2 x LAN 10/100/1000 Mbit/s connections; teaming-capable
- Onboard PROFIBUS or PROFINET interface (optional)
- 4 x high-speed USB 3.0 ports; 2 serial interfaces (2nd interface is optional)
- Flexible installation with mounting options (rail, wall, front upright mounting)
- Simple expansion capability (up to 2 PCIe slots)
- On/off switch

High system availability in order to reduce the risk of potential failures and maintenance costs

- Maintenance-free since no rotating parts (fans, hard disks) and operation without battery possible
- 512 KB NVRAM, of which 256 KB can be written by the WinAC RTX within the buffer time
- Front LED for efficient self-diagnostics; optimized for headless operation through special BIOS properties
- SIMATIC software system-tested

High investment security in order to reduce engineering costs

- Long-term availability: Service and support period of 8 to 10 years after market launch
- Installation and interface compatibility with predecessor versions as of 2004

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); display port
  - 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 V3.0
  - 1 x COM1 (RS232)
- Vacant slots (when using the versions with one or two expansion slots):
  - Up to 2 x PCIe cards (1 x PCIe x4 and 1 x PCIe x1)
- Isolated power supply: 24 V DC (19.2 to 28.8 V)

Design versions

- Processor:
  - Celeron 827E; 1.4 GHz, 1.5 MB Cache
  - Core i3-3217UE; 2 x 1.6 GHz, 3 MB Cache
  - Core i7-3517UE; 2 x 1.7 GHz (Turboboost to 2.8 GHz), 3 MB Cache
- Main memory capacity 1 GB (2/4/8 GB optional), DDR3 SDRAM
- Fieldbus
  - PROFINET onboard, 3 x RJ45, CP 1616-compatible
  - PROFIBUS DP/MPI onboard, CP 5622-compatible
- Hardware expansion
  - Second RS232 interface (COM2) onboard
- 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"
- Preinstalled operating systems:
  - Windows 7 Ultimate MUI
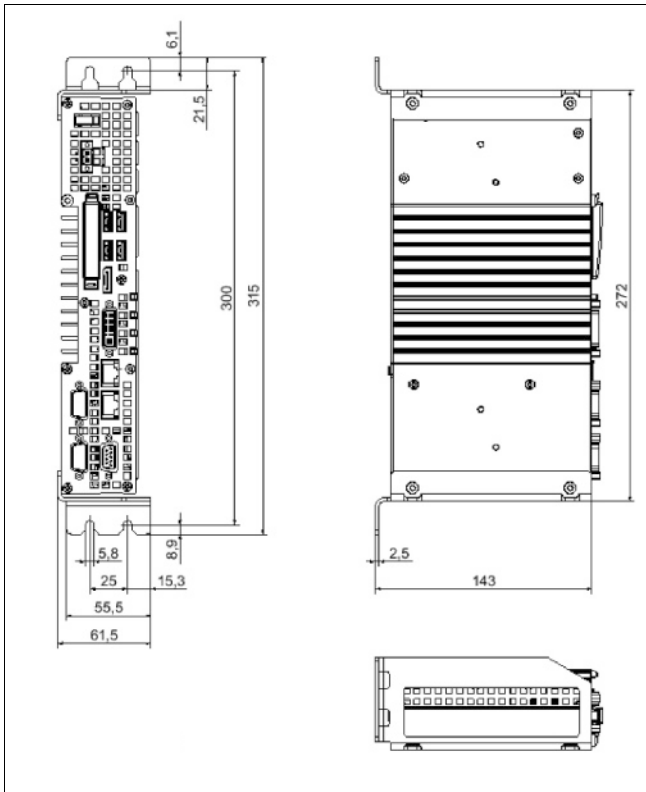 - Windows Embedded Standard 7

Technical specifications SIMATIC IPC427D

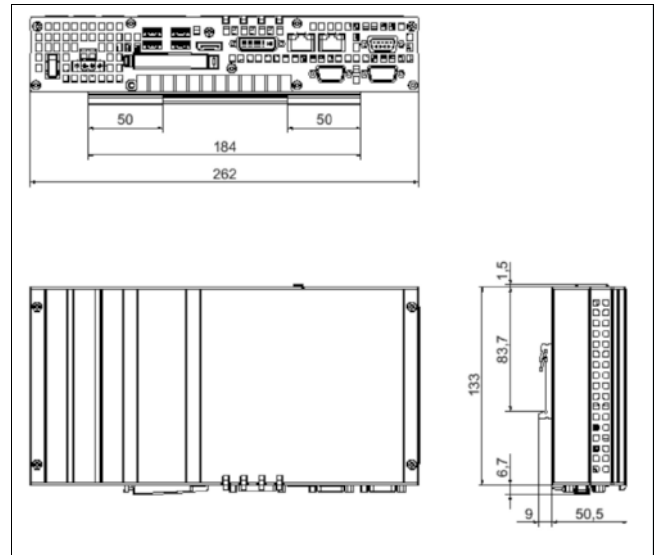| General features	
Design	• DIN rail mounting • Wall mounting • Portrait mounting
Processor	• Intel Celeron 827E 1.4 GHz, 1,5 MB SLC • Intel Core i3-3217UE 1.6 GHz, 3 MB SLC • Intel Core i7-3517UE 1.7 GHz, 4 MB SLC
Main memory	Memory modules without ECC: • 1 GB DDR3-SDRAM SODIMM • 2 GB DDR3-SDRAM SODIMM • 4 GB DDR3-SDRAM SODIMM • 8 GB DDR3-SDRAM SODIMM Memory modules with ECC: • 4 GByte DDR3-ECC SODIMM • 8 GByte DDR3-ECC SODIMM
Free slots for expansions	Up to 2 x PCIe cards, depending on enclosure design (1 x PCIe x4 and 1 x PCIe x1)
Graphics	• Integrated Intel HD2000 or HD4000 • DVI resolution of 640 x 480 pixels up to 1920 x 1200 pixels • Maximum display port resolution 1920 x 1200 pixels • Graphics memory is occupied in the main memory (UMA dynamic)
Power supply	24 V DC (-20% / +20%) max. 4 A
Rated conditions	Fan-free operation
Operating systems	
Available	• Without • Windows Embedded Standard 7 • Windows 7 Ultimate MUI
Project-specific	• Linux • QNX • VxWorks
Drives and storage media	
CFast card	• 2 GB optional or • 4 GB optional or • 8 GB optional or • 16 GB optional
Hard disk	2.5", ≥ 250 GB, SATA
Solid-State Drive (SSD)	2.5"; ≥ 80 GB Standard, ≥ 50 GB High-Endurance

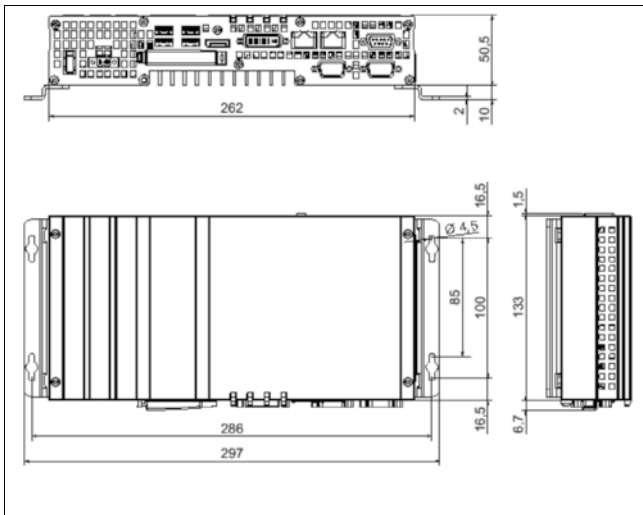| USB stick	External, can be connected via USB port
Interfaces	
Serial	• COM1 (RS 232) • COM2 (RS 232); optional
Graphics	• DVI-I: Can be used as DVI or VGA • DPP++: Display port, DVI via DPP-to-DVI adapter
USB	4 x USB 3.0, max. 2 high-current at the same time, downward-compatible with USB 2.0/1.1
Ethernet	• 2 x RJ45 (10/100/1000 MBit/s) teaming-capable or • 1 x RJ45 (10/100/1000 MBit/s) with PROFINET versions
PROFIBUS DP	12 Mbit/s (isolated, compatible with CP 5622), optional
PROFINET	3 x RJ45 (10/100 Mbit/s), CP 1616 onboard, optional
CAN interface	Optional
Keyboard, mouse	Connection via USB port
Advanced device functions	
Temperature	• When permitted operating temperature range is exceeded • Warnings can be analyzed by application program (local, via LAN)
Watchdog	• Monitoring function for program execution • Restart can be parameterized in the event of a fault • Warnings can be analyzed by application program (local, via LAN)
LED display	4 LEDs for displaying system status, 3 of these can be programmed by the user
Short-term voltage dips	Up to 15 ms buffer time at full load
Buffer memory	512 KB MRAM 1 optional

Dimension drawings SIMATIC IPC427D
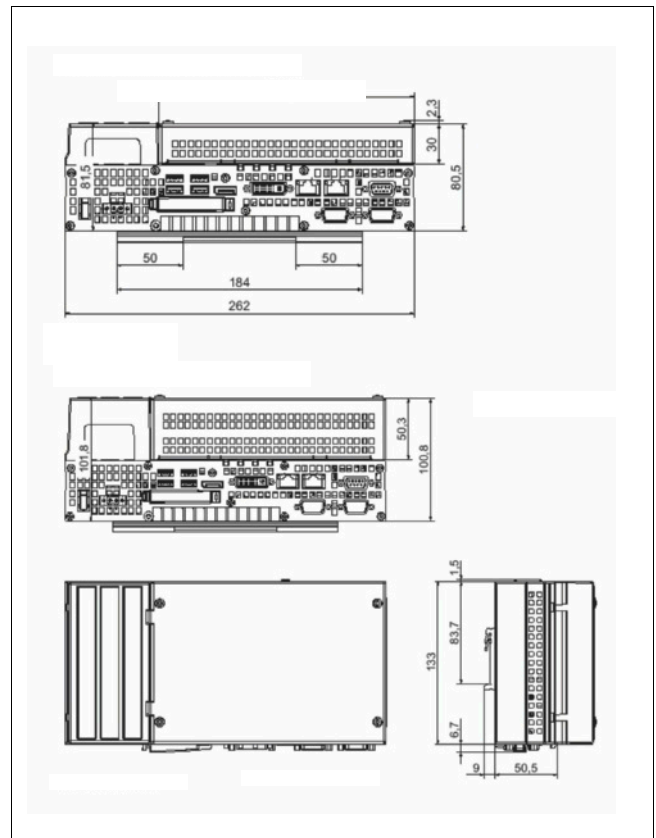
All dimensions in mm.

SIMATIC IPC427D, for portrait mounting

SIMATIC IPC427D, for DIN rail mounting

SIMATIC IPC427D, for wall mounting

SIMATIC IPC427D, with expansion cards

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