

## Overview



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

Ready-to-run, complete solution:

- Ultra-compact
- Maintenance-free
- Intel Core i-technology of the third generation

## Technical specifications

Article number	<b>6AG4140-.....0</b> SIMATIC IPC427D (Microbox PC)	<b>6AG4140-.....8</b> SIMATIC IPC427D (Microbox PC) with TPM
<b>Installation type/mounting</b>		
Mounting	DIN rail, wall mounting, portrait mounting	
Design	Box PC, built-in unit	
<b>Supply voltage</b>		
Type of supply voltage	24 V DC	24 V DC
<b>Processor</b>		
Processor type	Celeron 827E (1C/1T, 1.40 GHz, 1.5 MB Cache); Core i3-3217UE (2C/4T, 1.60 GHz, 3 MB Cache); Core i7-3517UE (2C/4T, 1.70 (2.80) GHz, 4 MB Cache, iAMT)	
<b>Graphic</b>		
Graphics controller	Intel HD Graphics, Intel HD Graphics 4000	
<b>Drives</b>		
Hard disk	2.5" SATA ≥ 320 GB	2.5" SATA ≥ 320 GB
SSD	Yes; 1x 240 GB SSD, 1x 480 GB SSD	
<b>Memory</b>		
Type of memory	DDR3 SO-DIMM	DDR3 SO-DIMM
Main memory	2 / 4 / 8 GB; ECC optional	2 / 4 / 8 GB; ECC optional
<b>Data areas and their retentivity</b>		
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional	512 kbyte; 128 KB can be stored in the buffer time; optional
<b>Hardware configuration</b>		
<b>Slots</b>		
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer	2x PCI; optional: 1x PCI & 1x PCIe (x16); 2x PCIe (x4, x16); with card retainer
<b>Interfaces</b>		
PROFIBUS/MPI	Optionally onboard, isolated, max. 12 Mbps, compatible with CP 5611	
Number of PROFINET interfaces	1; 3 ports (incl. switch)	1; 3 ports (incl. switch)
USB port	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB
serial interface	COM1: 1x RS 232, COM2 (optional): 1x RS 232	COM1: 1x RS 232, COM2 (optional): 1x RS 232
<b>Video interfaces</b>		
• Graphics interface	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)	1x DisplayPort and 1x DVI-I; 1x VGA via adapter cable (optional)
<b>Industrial Ethernet</b>		
• Industrial Ethernet interface	Onboard, 2x 10/100/1 000 Mbit, RJ45, no plug-in card necessary	Onboard, 2x 10/100/1 000 Mbit, RJ45, no plug-in card necessary
- 100 Mbps	Yes	Yes
- 1000 Mbps	Yes	Yes

# PC-based Automation

Industrial PC

Box PC

## SIMATIC IPC427D

### Technical specifications (continued)

Article number	6AG4140-.....-...0 SIMATIC IPC427D (Microbox PC)	6AG4140-.....-...8 SIMATIC IPC427D (Microbox PC) with TPM
<b>Integrated Functions</b>		
<b>Monitoring functions</b>		
• Temperature monitoring	Yes	Yes
• Watchdog	Yes	Yes
• Status LEDs	Yes	Yes
• Fan	No	No
• Monitoring function via network	Optional	Optional
<b>EMC</b>		
<b>Interference immunity against discharge of static electricity</b>		
• Interference immunity against discharge of static electricity	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2
<b>Interference immunity against high-frequency electromagnetic fields</b>		
• Interference immunity against high frequency radiation	10 V/m for 80 - 1000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6	
<b>Interference immunity to cable-borne interference</b>		
• Interference immunity on supply cables	±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric	
• Interference immunity on signal cables >30 m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m	
• Interference immunity on signal cables < 30 m	±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m	
<b>Interference immunity against voltage surge</b>		
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric	
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric	
<b>Interference immunity to magnetic fields</b>		
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8	100 A/m; to IEC 61000-4-8
<b>Emission of conducted and non-conducted interference</b>		
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A	
<b>Degree and class of protection</b>		
IP (at the front)	IP20	IP20
IP (rear)	IP20	IP20

Article number	6AG4140-.....-...0 SIMATIC IPC427D (Microbox PC)	6AG4140-.....-...8 SIMATIC IPC427D (Microbox PC) with TPM
<b>Standards, approvals, certificates</b>		
CE mark	Yes; CE marking / EC Declaration of Conformity	
UL approval	Yes	Yes
• UL 508	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
FCC	Yes	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2	
<b>Use in hazardous areas</b>		
• ATEX Zone 2	Yes	Yes
• IECEx Zone 2	Yes	Yes
• cULus Class I Zone 2, Division 2	Yes	Yes
<b>Marine approval</b>		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes	Yes
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	Yes	Yes
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes	Yes
<b>Ambient conditions</b>		
<b>Ambient temperature during operation</b>		
• Ambient temperature during operation	0 °C to +55 °C	0 °C to +55 °C
<b>Relative humidity</b>		
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5% to 80% at 25 °C (no condensation), Storage: 5% to 95% at 25 °C (no condensation)	
<b>Vibrations</b>		
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)	
<b>Shock testing</b>		
• Shock load during operation	Tested to DIN IEC 60068-2-29: 50 m/s <sup>2</sup> (5 g), 30 ms, 100 shocks	
<b>Operating systems</b>		
Operating system	Windows 7 Ultimate (Multi-Language) 32-bit / 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit	
pre-installed operating system without operating system	Yes	Yes
	Yes; Optional	Yes; Optional
<b>pre-installed operating system</b>		
• Windows 7	Yes; Ultimate 32 bit or 64 bit	
<b>Software</b>		
SIMATIC Software	Optionally with pre-installed software bundle SIMATIC WinCC RT Advanced / WinAC RTX	
<b>Dimensions</b>		
Width	262 mm	262 mm
Height	139.7 mm	139.7 mm
Depth	50.5 mm	50.5 mm

Ordering data	Article No.	Article No.
<b>SIMATIC IPC427D (Box PC) <sup>1)2)</sup></b>	<b>6AG4140-</b>	<b>SIMATIC IPC427D (Box PC) <sup>1)2)</sup></b>
<u>Processor and fieldbus</u>		<u>Expansions/interfaces:</u>
<ul style="list-style-type: none"> <li>Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN)</li> <li>Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12</li> <li>Celeron U827E (1C/1T, 1.4 GHz, 1.5 MB cache); 2 x Gigabit Ethernet (IE/PN); CAN interface</li> <li>Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN)</li> <li>Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12</li> <li>Core i3-3217UE (2C/4T, 1.6 GHz, 3 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)</li> <li>Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN) (optional ECC only here)</li> <li>Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 2 x Gigabit Ethernet (IE/PN); PROFIBUS DP12</li> <li>Core i7-3517UE (2C/4T, 1.7 (2.8) GHz, 4 MB cache); 1 x Gigabit Ethernet (IE/PN); 1 x PROFINET (IRT, 3 ports)</li> </ul>	0 1 2 3 4 5 6 7 8	<ul style="list-style-type: none"> <li>One RS 232, without PCIe</li> <li>One RS 232 and one PCIe</li> <li>One RS 232 and two PCIe</li> <li>Second RS 232, without PCIe</li> <li>Second RS 232 and one PCIe</li> <li>Second RS 232 and second PCIe</li> </ul>
		0 1 2 3 4 5
<u>Mounting accessories:</u>		<u>Operating system:</u>
<ul style="list-style-type: none"> <li>Without mounting accessories</li> <li>Standard DIN rail mounting</li> <li>Wall mounting</li> <li>Portrait mounting</li> <li>Standard DIN rail mounting with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2</li> <li>Wall mounting with ATEX/IECEX Cat 3G Zone 2 / cULus Class I Div. 2</li> <li>Portrait mounting with ATEX/IECEX Cat 3G Zone 2/cULus Class I Div. 2</li> </ul>	A B D E M N P	<ul style="list-style-type: none"> <li>Without operating system</li> <li>Windows Embedded Standard 7 Professional, 32-bit, MUI</li> <li>Windows Embedded Standard 7 SP1, English, 32-bit</li> <li>Windows Embedded Standard 7 SP1, English, 64-bit</li> <li>Windows 7 Ultimate SP1, 32-bit, MUI (en, de, fr, it, es)</li> <li>Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)</li> </ul>
		0 3 4 5 6 7
<u>Work memory/NVRAM/ECC:</u>		<u>Mass storage, externally accessible:</u>
<ul style="list-style-type: none"> <li>1 GB</li> <li>2 GB</li> <li>4 GB</li> <li>8 GB</li> <li>4 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))</li> <li>8 GB with ECC (only with Core i7, 2 x Gigabit Ethernet (IE/PN))</li> <li>1 GB and NVRAM</li> <li>2 GB and NVRAM</li> <li>4 GB and NVRAM</li> <li>8 GB and NVRAM</li> <li>4 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))</li> <li>8 GB with ECC and NVRAM (only with Core i7, 2 x Gigabit Ethernet (IE/PN))</li> </ul>	A B C D G H J K L M N P	<ul style="list-style-type: none"> <li>Without external mass storage</li> <li>CFast 2 GB Without operating system</li> <li>CFast 4 GB (only optionally with operating system if no internal mass storage)</li> <li>CFast 8 GB (only optionally with operating system if no internal mass storage)</li> <li>CFast 16 GB (only optionally with operating system if no internal mass storage)</li> </ul>
		0 1 2 3 4
		<u>Internal mass storage:</u>
		<ul style="list-style-type: none"> <li>Without internal mass storage</li> <li>CFast 2 GB, without software</li> <li>CFast 4 GB, without software</li> <li>CFast 8 GB, without software</li> <li>CFast 16 GB, without software</li> <li>320 GB HDD</li> <li>240 GB solid-state drive (standard)</li> <li>480 GB solid-state drive (standard)</li> </ul>
		A B C D E K P R
		<u>SIMATIC software preinstalled:</u>
		<ul style="list-style-type: none"> <li>Without SIMATIC software</li> </ul>
		A
		<u>Power supplies:</u>
		<ul style="list-style-type: none"> <li>24 V DC industrial power supply</li> <li>24 V DC and TPM <sup>4)</sup> (not for China or Russia)</li> </ul>
		0 8



1) Built to order versions with a delivery time of max. 15 working days and with identified repair, if not preferred type.  
 2) For an up-to-date overview, see the SIMATIC PC online configurator at: <http://www.siemens.com/ipc-configurator>  
 3) Only with "work memory and NVRAM".  
 4) TPM = Trusted Platform Module

**Note:**  
Please assemble the required IPC configuration using the TIA Selection Tool or the configurator in the Industry Mall in order to ensure suitability; we do not accept any liability for configurations compiled by users themselves.