

## PC-based Automation

Industrial PC

Box PC

### SIMATIC IPC427E

#### Overview



#### **SIMATIC IPC427E (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 sixth generation

#### Technical specifications

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<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
<b>Line frequency</b>	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
<b>Processor</b>	
Processor type	Celeron G3902 (2C/2T, 1.6 GHz, 2 MB Cache); Core i3-6102E (2C/4T, 1.9 GHz, 3 MB Cache); Core i5-6442EQ (4C/4T, 1.9 (2.7) GHz, 6 MB Cache, iAMT); Xeon E3-1505L v5 (4C/8T, 2.0 (2.8) GHz, 8 MB Cache, iAMT)
<b>Graphic</b>	
Graphics controller	Intel HD graphics controller
<b>Drives</b>	
Optical drives	possible as external drive via USB
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD
<b>Memory</b>	
Type of memory	DDR4 SO-DIMM
Main memory	4 GB to 16 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
<b>Hardware configuration</b>	
<b>Slots</b>	
• free slots	2x PCIe; optional: 1x PCIe (x4); 2x PCIe (x1, x4), with card retainer
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; Ethernet (2x RJ45, optional 3x RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 485 / 422; switchable)
<b>Video interfaces</b>	
• Graphics interface	2x DisplayPort
<b>Industrial Ethernet</b>	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

**Technical specifications (continued)**

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Integrated Functions</b>	
<b>Monitoring functions</b>	
• Temperature monitoring	Yes
• Watchdog	Yes
• Status LEDs	Yes
• Fan	No
• Monitoring function via network	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
<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 >30m	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
• Interference immunity on signal cables < 30m	±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
<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
IP (rear)	IP20

Article number	<b>6AG4141-.....-....</b> SIMATIC IPC427E (MicroBOX PC)
<b>Standards, approvals, certificates</b>	
CE mark	Yes; CE marking / EC Declaration of Conformity
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 55022A, EN 61000-6-4, EN 61000-6-2
<b>Use in hazardous areas</b>	
• ATEX Zone 2	Yes
• IECEx Zone 2	Yes
• cULus Class I Zone 2, Division 2	Yes
<b>Marine approval</b>	
• Germanischer Lloyd (GL)	Yes
• American Bureau of Shipping (ABS)	Yes
• Det Norske Veritas (DNV)	Yes
• Korean Register of Shipping (KRS)	Yes
• Lloyds Register of Shipping (LRS)	Yes
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
• Ambient temperature during operation	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) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
pre-installed operating system	Yes
without operating system	Yes; Optional
<b>pre-installed operating system</b>	
• Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSC, 64 bit, MUJ
<b>Software</b>	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
<b>Dimensions</b>	
Width	262 mm
Height	139.7 mm
Depth	55.5 mm

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Box PC

## SIMATIC IPC427E

### Ordering data

### Article No.

SIMATIC IPC427E (Box PC) <sup>1)</sup>	6AG4141-						
<b>Processor and fieldbus</b>							
• Celeron G3902E; 2 x Gigabit Ethernet (IE/PN)		0					
• Celeron G3902E; 3 x Gigabit Ethernet (IE/PN)		1					
• Core i3-6102E; 3 x Gigabit Ethernet (IE/PN)		3					
• Core i5-6442EQ; 3 x Gigabit Ethernet (IE/PN)		5					
• Xeon E3-1505L; 3 x Gigabit Ethernet (IE/PN)		7					
<b>Mounting accessories/ATEX</b>							
• Standard rail mounting			B				
• Wall mounting			C				
• Portrait mounting			D				
• Standard rail mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2			F				
• Wall mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2			G				
• Portrait mounting with ATEX/IECEx Cat 3G Zone 2/cULus Class I Div. 2			H				
<b>Work memory/NVRAM/ECC</b>							
• 4 GB			A				
• 8 GB			B				
• 16 GB			C				
• 8 GB with ECC			D				
• 16 GB with ECC			E				
• 4 GB and NVRAM			F				
• 8 GB and NVRAM			G				
• 16 GB and NVRAM			H				
• 8 GB with ECC and NVRAM			J				
• 16 GB with ECC and NVRAM			K				
<b>Expansions/interfaces</b>							
• No RS 232/RS 485, without PCIe		0					
• No RS 232/RS 485 and one PCIe		1					
• No RS 232/RS 485 and two PCIe		2					
• Two RS 232/RS 485, without PCIe		3					
• Two RS 232/RS 485 and one PCIe		4					
• Two RS 232/RS 485 and two PCIe		5					
<b>Operating system</b>							
• Without operating system		0					
• Windows Embedded Standard 7 SP1, English, 32-bit		1					
• Windows Embedded Standard 7 SP1, English, 64-bit		2					
• Windows Embedded Standard 7 SP1, English, 64-bit, multi-touch		3					
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)		4					
• Windows 10 Enterprise 2016 LTSB (64-bit) for Celeron, Core i3 and Core i5 processors		7					
• Windows 10 Enterprise 2016 LTSB (64-bit) for Xeon processors		8					

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<b>Mass storage, externally accessible</b>							
• Without external mass storage		0					
• CFast 2 GB without operating system		1					
• CFast 4 GB without operating system		2					
• CFast 8 GB (only optionally with operating system/software if no internal mass storage or HDD)		3					
• CFast 16 GB (only optionally with operating system/software if no internal mass storage or HDD)		4					
• CFast 30 GB (only optionally with operating system/software if no internal mass storage or HDD)		5					
<b>Mass storage, internal</b>							
• Without internal mass storage			A				
• 128 GB solid-state drive SATA			D				
• 240 GB solid-state drive SATA			F				
• 480 GB solid-state drive SATA			G				
• 320 GB HDD			J				
<b>SIMATIC Software (bundles/starter system)</b>							
• Without SIMATIC software			A				
• CPU 1507S			B				
• WinCC RT Advanced V15							
- 128 PT			C				
- 512 PT			D				
- 2 048 PT			E				
- 4 096 PT			F				
- 8 192 PT			G				
<b>CPU 1507S / WinCC RT Advanced V15</b>							
- 128 PT			H				
- 512 PT			J				
- 2 048 PT			K				
- 4 096 PT			L				
- 8 192 PT			M				
• IPC starter system with CPU 1507S and WinCC RT Advanced, without licenses			S				
<b>Power supply</b>							
• 24 V DC industrial power supply						0	
• 24 V DC and TPM <sup>2)</sup> (not for China or Russia)						8	

<sup>1)</sup> For an up-to-date overview, see the SIMATIC PC Online Configurator:  
<http://www.siemens.com/ipc-configurator>

<sup>2)</sup> TPM = Trusted Platform Module