

## Overview



### **SIMATIC IPC127E: Ultra-compact IoT gateway for data collection, pre-processing, and forwarding of the data**

Thanks to the ultra-compact enclosure, which has a volume of just 0.3 liters, the SIMATIC IPC127E can be easily – even subsequently – integrated into the control cabinet or directly on the machine with minimal space requirements.

The enclosed all-metal enclosure enables the new industrial PC to be used flexibly and maintenance-free even under harsh conditions. Thus the SIMATIC IPC127E makes it possible to reliably record / collect / process / transfer data directly in the production environment and can be flexibly used as an IoT gateway between the cloud or the corporate IT level and production. Thanks to pre-configured versions, the right product is available to users in a very short time.

## Technical specifications

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E	6AG4021-0AA12-0BA0 SIMATIC IPC127E	6AG4021-0AB11-0BA0 SIMATIC IPC127E	6AG4021-0AB12-0CA0 SIMATIC IPC127E
<b>Installation type/mounting</b>				
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>				
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>				
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms
<b>Processor</b>				
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
<b>Drives</b>				
SSD	Yes; 32 GB	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB
<b>Memory</b>				
Type of memory	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	2 GB RAM	4 GB RAM	4 GB RAM
<b>Interfaces</b>				
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	3	2	3
USB port	2x USB 3.0	4x USB 3.0	2x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB
<b>Video interfaces</b>				
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
<b>Industrial Ethernet</b>				
• Industrial Ethernet interface	2x Ethernet (RJ45)	3x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes
<b>Protocols</b>				
<b>Protocols (Ethernet)</b>				
• TCP/IP	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>				
<b>Monitoring functions</b>				
• Temperature monitoring	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user
• Fan	No	No	No	No

## PC-based Automation

Industrial PC

Box PC

### SIMATIC IPC127E

#### Technical specifications (continued)

Article number	6AG4021-0AA11-0AA0 SIMATIC IPC127E	6AG4021-0AA12-0BA0 SIMATIC IPC127E	6AG4021-0AB11-0BA0 SIMATIC IPC127E	6AG4021-0AB12-0CA0 SIMATIC IPC127E
<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			
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2				
- Test voltage at air discharge	8 kV	8 kV	8 kV	8 kV
- Test voltage at contact discharge	6 kV	6 kV	6 kV	6 kV
<b>Interference immunity against high-frequency electromagnetic fields</b>				
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 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 (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)			
• 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 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	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 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A	EN 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A
<b>Standards, approvals, certificates</b>				
Approval	CE, UL	CE, UL	CE, UL	CE, UL
CE mark	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>				
<b>Ambient temperature during operation</b>				
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
<b>Relative humidity</b>				
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>				
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>			
<b>Shock testing</b>				
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms			
<b>Operating systems</b>				
<b>pre-installed operating system</b>				
• Windows 10 Enterprise	No	No	No	No
<b>Dimensions</b>				
Width	85 mm	85 mm	85 mm	85 mm
Height	85 mm	104 mm	85 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm

**Technical specifications** (continued)

Article number	<b>6AG4021-0AA11-1BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB11-1BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB11-1CA0</b> SIMATIC IPC127E	<b>6AG4021-0AB12-1BA0</b> SIMATIC IPC127E	<b>6AG4021-0AB12-1CA0</b> SIMATIC IPC127E
<b>Installation type/mounting</b>					
Design	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit	Box PC, built-in unit
<b>Supply voltage</b>					
Type of supply voltage	24 V DC	24 V DC	24 V DC	24 V DC	24 V DC
<b>Mains buffering</b>					
• Mains/voltage failure stored energy time	5 ms	5 ms	5 ms	5 ms	5 ms
<b>Processor</b>					
Processor type	Intel Atom E3930, 1.3 GHz, 2 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores	Intel Atom E3940, 1.6 GHz, 4 cores
<b>Drives</b>					
SSD	Yes; 64 GB	Yes; 64 GB	Yes; 128 GB	Yes; 64 GB	Yes; 128 GB
<b>Memory</b>					
Type of memory	DDR4	DDR4	DDR4	DDR4	DDR4
Main memory	2 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM
<b>Interfaces</b>					
Number of industrial Ethernet interfaces	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	2; 2x RJ45 (independent)	3; 3x Ethernet (RJ45)	3; 3x Ethernet (RJ45)
Number of PROFINET interfaces	2	2	2	3	3
USB port	2x USB 3.0	2x USB 3.0	2x USB 3.0	4x USB 3.0	4x USB 3.0
Connection for keyboard/mouse	USB / USB	USB / USB	USB / USB	USB / USB	USB / USB
<b>Video interfaces</b>					
• Graphics interface	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort	1x DisplayPort
<b>Industrial Ethernet</b>					
• Industrial Ethernet interface	2x Ethernet (RJ45)	2x Ethernet (RJ45)	2x Ethernet (RJ45)	3x Ethernet (RJ45)	3x Ethernet (RJ45)
- 100 Mbps	Yes	Yes	Yes	Yes	Yes
- 1000 Mbps	Yes	Yes	Yes	Yes	Yes
<b>Protocols</b>					
<b>Protocols (Ethernet)</b>					
• TCP/IP	Yes	Yes	Yes	Yes	Yes
<b>Integrated Functions</b>					
<b>Monitoring functions</b>					
• Temperature monitoring	Yes	Yes	Yes	Yes	Yes
• Watchdog	Yes	Yes	Yes	Yes	Yes
• Status LEDs	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user	1x power, 3x user
• Fan	No	No	No	No	No
<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				
• Interference immunity against discharge of static electricity acc. to IEC 61000-4-2					
- Test voltage at air discharge	8 kV	8 kV	8 kV	8 kV	8 kV
- Test voltage at contact discharge	6 kV	6 kV	6 kV	6 kV	6 kV
<b>Interference immunity against high-frequency electromagnetic fields</b>					
• Interference immunity against high frequency radiation	10 V/m, 80 MHz to 2 GHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 GHz to 2.7 GHz, 80 % AM acc. to IEC 61000-4-3; 10 V, 10 kHz to 80 MHz, 80 % AM acc. to IEC 61000-4-6				

# PC-based Automation

Industrial PC

Box PC

## SIMATIC IPC127E

### Technical specifications (continued)

Article number	6AG4021-0AA11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1BA0 SIMATIC IPC127E	6AG4021-0AB11-1CA0 SIMATIC IPC127E	6AG4021-0AB12-1BA0 SIMATIC IPC127E	6AG4021-0AB12-1CA0 SIMATIC IPC127E
<b>Interference immunity to cable-borne interference</b>					
• Interference immunity on supply cables	±2 kV (according to IEC 61000-4-4; burst); ±0,5 kV (according to IEC 61000-4-5; surge pulse/line to line); ±1 kV (according to IEC 61000-4-5; surge pulse/line to ground)				
• 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 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	100 A/m; to IEC 61000-4-8	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 61000-6-4:2007 +A1:2011 (industrial environments), EN 61000-6-3:2007 +A1:2011 (residential environments), CISPR 22 Class B, FCC Class A				
<b>Standards, approvals, certificates</b>					
Approval	CE, UL	CE, UL	CE, UL	CE, UL	CE, UL
CE mark	Yes	Yes	Yes	Yes	Yes
UL approval	Yes	Yes	Yes	Yes	Yes
Dust protection	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm	Protection against foreign bodies > 1 mm
<b>Ambient conditions</b>					
<b>Ambient temperature during operation</b>					
• Ambient temperature during operation	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C	0 °C up to 55 °C
<b>Relative humidity</b>					
• Relative humidity	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation	5 ... 85 % at 30 °C, no condensation
<b>Vibrations</b>					
• Vibration resistance during operation acc. to IEC 60068-2-6	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>	Tested according to IEC 6068-2-6; 5 Hz to 9 Hz: 3.5 mm, 9 Hz to 500 Hz: 9,8 m/s <sup>2</sup>
<b>Shock testing</b>					
• Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms	Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms
<b>Operating systems</b>					
Operating system	Windows 10 Enterprise 2016 LTSB, 64 bit, MUI				
pre-installed operating system	Yes	Yes	Yes	Yes	Yes
<b>pre-installed operating system</b>					
• Windows 10	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI				
• Windows 10 Enterprise	Yes	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
<b>Dimensions</b>					
Width	85 mm	85 mm	85 mm	85 mm	85 mm
Height	85 mm	85 mm	85 mm	104 mm	104 mm
Depth	41 mm	41 mm	41 mm	41 mm	41 mm

Ordering data	Article No.	Article No.	
<i>SIMATIC IPC127E</i>			
<b>Configuration 1</b> <ul style="list-style-type: none"> <li>Processor / RAM: 2 core / 2 GB RAM</li> <li>Box type: Base</li> <li>Operating system: Without</li> <li>Drive: 32 GB SSD</li> </ul>	<b>6AG4021-0AA11-0AA0</b>	<b>Configuration 6</b> <ul style="list-style-type: none"> <li>Processor / RAM: 4 core / 4 GB RAM</li> <li>Box type: Base</li> <li>Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI</li> <li>Drive: 64 GB SSD</li> </ul>	<b>6AG4021-0AB11-1BA0</b>
<b>Configuration 2</b> <ul style="list-style-type: none"> <li>Processor / RAM: 2 core / 2 GB RAM</li> <li>Box type: Extended</li> <li>Operating system: Without</li> <li>Drive: 64 GB SSD</li> </ul>	<b>6AG4021-0AA12-0BA0</b>	<b>Configuration 7</b> <ul style="list-style-type: none"> <li>Processor / RAM: 4 core / 4 GB RAM</li> <li>Box type: Base</li> <li>Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI</li> <li>Drive: 128 GB SSD</li> </ul>	<b>6AG4021-0AB11-1CA0</b>
<b>Configuration 3</b> <ul style="list-style-type: none"> <li>Processor / RAM: 4 core / 4 GB RAM</li> <li>Box type: Base</li> <li>Operating system: Without</li> <li>Drive: 64 GB SSD</li> </ul>	<b>6AG4021-0AB11-0BA0</b>	<b>Configuration 8</b> <ul style="list-style-type: none"> <li>Processor / RAM: 4 core / 4 GB RAM</li> <li>Box type: Extended</li> <li>Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI</li> <li>Drive: 64 GB SSD</li> </ul>	<b>6AG4021-0AB12-1BA0</b>
<b>Configuration 4</b> <ul style="list-style-type: none"> <li>Processor / RAM: 4 core / 4 GB RAM</li> <li>Box type: Extended</li> <li>Operating system: Without</li> <li>Drive: 128 GB SSD</li> </ul>	<b>6AG4021-0AB12-0CA0</b>	<b>Configuration 9</b> <ul style="list-style-type: none"> <li>Processor / RAM: 4 core / 4 GB RAM</li> <li>Box type: Extended</li> <li>Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI</li> <li>Drive: 128 GB SSD</li> </ul>	<b>6AG4021-0AB12-1CA0</b>
<b>Configuration 5</b> <ul style="list-style-type: none"> <li>Processor / RAM: 2 core / 2 GB RAM</li> <li>Box type: Base</li> <li>Operating system: Windows 10 Enterprise 2016 LTSB, 64-bit, MUI</li> <li>Drive: 64 GB SSD</li> </ul>	<b>6AG4021-0AA11-1BA0</b>		

Note:

All configurations of the SIMATIC IPC127E do not include any mounting accessories. They must be ordered separately.

<b>Mounting accessories</b>	
<b>DIN rail</b>	<b>6AG4021-0AA20-0AA1</b>
<b>Wall-mount</b>	<b>6AG4021-0AA20-0AA2</b>
<b>Book-mount Base</b>	<b>6AG4021-0AA20-0AA3</b>
<b>Book-mount Extended</b>	<b>6AG4021-0AA20-0AA4</b>
<b>Book-mount DIN-Rail</b>	<b>6AG4021-0AA20-0AA5</b>

Additional information is available on the Internet at:

<http://www.siemens.com/simatic-ipc>