

PC-based Automation

Industrial PC
Panel PC

SIMATIC IPC477E

Overview



SIMATIC IPC477E: The powerful embedded Panel PC – maintenance-free with versatile configuration

- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to even the harshest mechanical stress and extremely reliable in operation
- Compact design
- Battery-independent retentive memory onboard
- High degree of investment security
- Fast integration capability
- Built-in versions
 - 15" TFT touch
 - 19" TFT touch
 - 22" TFT touch
 - 15" TFT multi-touch
 - 19" TFT multi-touch
 - 22" TFT multi-touch
 - 24" TFT multi-touch

Technical specifications

Article number	6AV7241-..... SIMATIC IPC 477E
Installation type/mounting	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
Supply voltage	
Type of supply voltage	100/240 V AC (autorange) 50/60 Hz; optional 24 V DC
Line frequency	
• Rated value 50 Hz	Yes
• Rated value 60 Hz	Yes
Processor	
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)
Graphic	
Graphics controller	Intel HD graphics controller
Drives	
Optical drives	possible as external drive via USB
Hard disk	2.5" SATA hard disk, at least 320 GB
SSD	Yes; 1x 128 GB, 1x 240 GB SSD, 1x 480 GB SSD
Memory	
Type of memory	DDR4 SO-DIMM
Main memory	4 GB to 16 GB, ECC optional
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional
Hardware configuration	
Slots	
• free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card
Interfaces	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse serial interface	USB / USB Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
• Graphics interface	2x DisplayPort
Industrial Ethernet	
• Industrial Ethernet interface	3x Ethernet (RJ45)
- 100 Mbps	Yes
- 1000 Mbps	Yes

Technical specifications (continued)

Article number	6AV7241-.....-.... SIMATIC IPC 477E
Integrated Functions	
Monitoring functions	
• Temperature monitoring	Yes
• Watchdog	Yes
• Fan	No
• Monitoring function via network	Optional
EMC	
Interference immunity against discharge of static electricity	
• 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 high-frequency electromagnetic fields	
• Interference immunity against high frequency radiation	10 V/m, 80 ... 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2 ... 2.7 GHz; 10 V, 10 kHz ... 80 MHz acc. to IEC 61000-4-6
Interference immunity to cable-borne interference	
• 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
Interference immunity against voltage surge	
• asymmetric interference	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
• Interference immunity to magnetic fields at 50 Hz	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
• Interference emission via line/AC current cables	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Degree and class of protection	
IP (at the front)	IP65
IP (rear)	IP20

Article number	6AV7241-.....-.... SIMATIC IPC 477E
Standards, approvals, certificates	
CE mark	Yes; CE marking / EC Declaration of Conformity
CSA approval	Yes
UL approval	Yes
• UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
FCC	Yes
EMC	CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A
Use in hazardous areas	
• ATEX Zone 2	Yes
• IECEx Zone 2	Yes
• cULus Class I Zone 2, Division 2	Yes
Marine approval	
• 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
Ambient conditions	
Ambient temperature during operation	
• Ambient temperature during operation	0 to +45°C
Relative humidity	
• Relative humidity	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
Vibrations	
• Vibration resistance during operation acc. to IEC 60068-2-6	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s ² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s ² (hard disk)
Shock testing	
• Shock load during operation	IEC 60068-2-27; 150 m/s ² , 11 ms (without hard disk); 50 m/s ² , 30 ms (with hard disk)
Operating systems	
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
pre-installed operating system	
• Windows 7	Yes; Ultimate 64 bit
• Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSC, 64 bit, MUI
Software	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle

PC-based Automation

Industrial PC

Panel PC

SIMATIC IPC477E

Ordering data

Article No.

SIMATIC IPC477E ¹⁾	6AV7241 -	
Processor and fieldbus		
• 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
Operating unit		
• 15" single-touch (1 280 x 800) with front USB		B
• 19" single-touch (1 366 x 768) with front USB		D
• 22" single-touch (1 920 x 1 080) with front USB		E
• 15" multi-touch (1 366 x 768), single-touch mode only with WES7-E		J
• 19" multi-touch (1 366 x 768), single-touch mode only with WES7-E		K
• 22" multi-touch (1 920 x 1 080), single-touch mode only with WES7-E		L
• 24" multi-touch (1 920 x 1 080), single-touch mode only with WES7-E		R
Work memory/NVRAM		
• 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
Expansions/interfaces		
• No RS 232/RS 485, without PCIe		0
• No RS 232/RS 485 and one PCIe		1
• Second RS 232/RS 485, without PCIe		3
• Second RS 232/RS 485 and one PCIe		4
• No RS 232, without PCIe with ATEX/IECEX Cat 3G Zone 2		5
• No RS 232 and one PCIe with ATEX/IECEX Cat 3G Zone 2		6
• Two RS 232 without PCIe with ATEX/IECEX Cat 3G Zone 2		7
• Two RS 232 and one PCIe with ATEX/IECEX Cat 3G Zone 2		8
Operating system		
• 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 P SP1, English, 64-bit, multi-touch		3
• Windows 7 Ultimate SP1, 64-bit, MUI (en, de, fr, it, es)		4
• Windows 10 Enterprise 2016 LTSC (64-bit) for Celeron, Core i3 and Core i5 processors		7
• Windows 10 Enterprise 2016 LTSC (64-bit) for Xeon processors		8

Article No.

SIMATIC IPC477E ¹⁾	6AV7241 -	
Mass storage, externally accessible		
• 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
Mass storage, internal		
• 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
SIMATIC software (bundles and starter systems)		
• 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
• CPU 1507S / WinCC RT Advanced V15		
- 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
Power supply:		
• 24 V DC industrial power supply		0
• 110/230 V AC industrial power supply with NAMUR; European power cable		1
• 110/230 V AC industrial power supply with TPM ²⁾ (not for China or Russia) NAMUR, European power cable		7
• 24 V DC industrial power supply and TPM ²⁾ (not for China or Russia)		8

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

²⁾ TPM = Trusted Platform Module

4