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Data sheet 6AV7241-5EC17-0FA0

	SIMATIC IPC 477E 22" Touch (1920 x 1080); with front USB; 4 USB (back), Ethernet (10/100/1000); Core i5-6442EQ; 3x Gbit Ethernet (IE/PN); 16 GB; without RS 232/RS485; 1x PCIe (x4); Windows 10 IoT Enterprise 2016 LTSB (64-bit) for Celeron, i3 and i5; Without replaceable mass storage; 240 GB solid-state drive SATA Without SIMATIC software; 24 V DC industrial power supply
General information	
Product type designation	IPC477E
Display	
Design of display	22" TFT touch
Screen diagonal	21.5 in
Resolution (pixels)	
● Horizontal image resolution	1 920 pixel
● Vertical image resolution	1 080 pixel
Backlighting	
● MTBF backlighting (at 25 °C)	30 000 h
Control elements	
Input device	
● Mouse, at front	No
Keyboard fonts	
● Function keys	No
● alphanumeric keyboard	No
Touch operation	
● Design as touch screen	Yes; analog, resistive
Installation type/mounting	
Mounting	For horizontal and vertical mounting
Design	Panel PC, built-in unit
central design	Yes
distributed design	No
Mounting in portrait format possible	Yes
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
Mains buffering	
● Mains/voltage failure stored energy time	20 ms
Power loss	
In full configuration	24 V DC: max. 74 W, PCIe APCB additionally 5 W
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)
Chipset	Intel C236 / Intel H110
Graphic	
Graphics controller	Intel HD graphics controller
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 128 / 240 / 480 GB
Memory	
Type of memory	DDR4-2400 SO-DIMM
Main memory	4 / 8 / 16 GB, ECC optional
Capacity of main memory, max.	16 Gbyte
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

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Hardware configuration	
Slots	
● free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card
● Number of PCI slots	1; Optional
● Number of compact flash slots	1; CFast
Interfaces	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
Video interfaces	
● Graphics interface	2x DisplayPort
Industrial Ethernet	
● Industrial Ethernet interface	3x Ethernet (RJ45)
— 100 Mbps	Yes
— 1000 Mbps	Yes
Interrupts/diagnostics/status information	
Bus diagnostics	Yes
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
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
● UL 508	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	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; Optional, only with Multitouch
● IECEx Zone 2	Yes; Optional, only with Multitouch
● cULus Class I Zone 2, Division 2	Yes; Optional, only with Multitouch

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Marine approval	
● Germanischer Lloyd (GL)	Yes
● American Bureau of Shipping (ABS)	Yes
● Bureau Veritas (BV)	Yes
● Det Norske Veritas (DNV)	Yes
● Korean Register of Shipping (KRS)	Yes
● Lloyds Register of Shipping (LRS)	Yes
● Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
● min.	0 °C
● max.	45 °C
Ambient temperature during storage/transportation	
● min.	-20 °C
● max.	60 °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/s² (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s² (hard disk)
Shock testing	
● Shock load during operation	IEC 60068-2-27; 150 m/s², 11 ms (without hard disk); 50 m/s², 30 ms (with hard disk)
Operating systems	
pre-installed operating system	Windows 7 Ultimate (Multi-Language) 64-bit, Windows Embedded Standard 7 E/P 32-bit / 64-bit, Windows 10
without operating system	Yes; Optional
pre-installed operating system	
● Windows 7	Yes; Ultimate 64 bit
● Windows 10 Enterprise	Yes; Windows 10 Enterprise 2016 LTSB, 64 bit, MUI
Software	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
Dimensions	
Width of the housing front	560 mm
Height of housing front	380 mm
Mounting cutout, width	542 mm
Mounting cutout, height	362 mm
Overall depth	76 mm
Weights	
Weight, approx.	9.5 kg

Classifications

	Version	Classification
eClass	14	19-20-01-03
eClass	12	19-20-01-03
eClass	9.1	19-20-01-03
eClass	9	19-20-01-03
eClass	8	27-24-23-01
eClass	7.1	27-24-23-01
eClass	6	27-24-23-01
ETIM	10	EC001414
ETIM	9	EC001414
ETIM	8	EC001414
ETIM	7	EC001414

Approvals / Certificates

General Product Approval	other	Environment

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Confirmation

Environmental Confirmations

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