

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; without PCIe; Windows 10 Enterprise 2019 LTSC (64-bit), MUI (en,de,fr,it,es) 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 APGB 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
<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>	
Slots	
<ul style="list-style-type: none"> <li>• free slots</li> <li>• Number of PCI slots</li> <li>• Number of compact flash slots</li> </ul>	1x PCIe (slot with card retainer), 1x slot for CFAST card 1; Optional 1; CFast
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
USB port	4x USB 3.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
<ul style="list-style-type: none"> <li>• Graphics interface</li> </ul>	2x DisplayPort
Industrial Ethernet	
<ul style="list-style-type: none"> <li>• Industrial Ethernet interface               <ul style="list-style-type: none"> <li>— 100 Mbps</li> <li>— 1000 Mbps</li> </ul> </li> </ul>	3x Ethernet (RJ45) Yes Yes
<b>Interrupts/diagnostics/status information</b>	
Bus diagnostics	Yes
<b>Integrated Functions</b>	
Monitoring functions	
<ul style="list-style-type: none"> <li>• Temperature monitoring</li> <li>• Watchdog</li> <li>• Fan</li> <li>• Monitoring function via network</li> </ul>	Yes Yes No Optional
<b>EMC</b>	
Interference immunity against discharge of static electricity	
<ul style="list-style-type: none"> <li>• Interference immunity against discharge of static electricity</li> </ul>	±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	
<ul style="list-style-type: none"> <li>• Interference immunity against high frequency radiation</li> </ul>	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	
<ul style="list-style-type: none"> <li>• Interference immunity on supply cables</li> <li>• Interference immunity on signal cables &gt;30m</li> <li>• Interference immunity on signal cables &lt; 30m</li> </ul>	±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 ±2 kV acc. to IEC 61000-4-5, surge, length > 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
Interference immunity against voltage surge	
<ul style="list-style-type: none"> <li>• asymmetric interference</li> <li>• symmetric interference</li> </ul>	±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity to magnetic fields	
<ul style="list-style-type: none"> <li>• Interference immunity to magnetic fields at 50 Hz</li> </ul>	100 A/m; to IEC 61000-4-8
Emission of conducted and non-conducted interference	
<ul style="list-style-type: none"> <li>• Interference emission via line/AC current cables</li> </ul>	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)	IP65
IP (rear)	IP20
<b>Standards, approvals, certificates</b>	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
<ul style="list-style-type: none"> <li>• UL 508</li> </ul>	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
<b>Use in hazardous areas</b>	
<ul style="list-style-type: none"> <li>• ATEX Zone 2</li> <li>• IECEx Zone 2</li> <li>• cULus Class I Zone 2, Division 2</li> </ul>	<ul style="list-style-type: none"> <li>Yes; Optional, only with Multitouch</li> <li>Yes; Optional, only with Multitouch</li> <li>Yes; Optional, only with Multitouch</li> </ul>
<b>Marine approval</b>	
<ul style="list-style-type: none"> <li>• Germanischer Lloyd (GL)</li> <li>• American Bureau of Shipping (ABS)</li> <li>• Bureau Veritas (BV)</li> <li>• Det Norske Veritas (DNV)</li> <li>• Korean Register of Shipping (KRS)</li> <li>• Lloyds Register of Shipping (LRS)</li> <li>• Nippon Kaiji Kyokai (Class NK)</li> </ul>	<ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<ul style="list-style-type: none"> <li>• Ambient temperature during operation</li> </ul>	0 °C to 45 °C
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<ul style="list-style-type: none"> <li>-20 °C</li> <li>60 °C</li> </ul>
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• Relative humidity</li> </ul>	Tested according to IEC 60068-2-78, IEC 60068-2-30: 5% to 80% at 25 °C (no condensation)
<b>Vibrations</b>	
<ul style="list-style-type: none"> <li>• Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	IEC 60068-2-6; 5 Hz to 9 Hz: 3.5 mm; 9 Hz to 500 Hz: 9.8 m/s <sup>2</sup> (with SSD or CFast); 10 Hz to 58 Hz: 0.0375 mm; 58 Hz to 200 Hz: 4.9 m/s <sup>2</sup> (hard disk)
<b>Shock testing</b>	
<ul style="list-style-type: none"> <li>• Shock load during operation</li> </ul>	IEC 60068-2-27; 150 m/s <sup>2</sup> , 11 ms (without hard disk); 50 m/s <sup>2</sup> , 30 ms (with hard disk)
<b>Operating systems</b>	
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
<b>pre-installed operating system</b>	
<ul style="list-style-type: none"> <li>• Windows 7</li> <li>• Windows 10 Enterprise</li> </ul>	<ul style="list-style-type: none"> <li>Yes; Ultimate 64 bit</li> <li>Yes; Windows 10 Enterprise 2016 LTSC, 64 bit, MUI</li> </ul>
<b>Software</b>	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
<b>Dimensions</b>	
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
<b>Weights</b>	
Weight, approx.	9.5 kg
<b>last modified:</b>	12/1/2020 