## SIEMENS

## Data sheet

## 6AV7241-5DC17-0GA1

SIMATIC IPC 477E 19" Touch (1366 x 768); 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; 480 GB solid-state drive SATA Without SIMATIC software; 110/230 V AC industrial power supply unit with NAMUR; without power supply cord;

	PS,
General information	
Product type designation	IPC477E
Display	
Design of display	19" TFT touch
Screen diagonal	18.5 in
Resolution (pixels)	
<ul> <li>Horizontal image resolution</li> </ul>	1 366 pixel
Vertical image resolution	768 pixel
Backlighting	
<ul> <li>MTBF backlighting (at 25 °C)</li> </ul>	50 000 h
Control elements	
Input device	
Mouse, at front	No
Keyboard fonts	
Function keys	No
<ul> <li>alphanumeric keyboard</li> </ul>	No
Touch operation	
<ul> <li>Design as touch screen</li> </ul>	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	
<ul> <li>Mains/voltage failure stored energy time</li> </ul>	20 ms
Power loss	
In full configuration	24 V DC: max. 65 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
Type of memory	
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
Hardware configuration	
Slots	
free slots	1x PCIe (slot with card retainer), 1x slot for CFAST card
<ul> <li>Number of PCI slots</li> </ul>	1; Optional
<ul> <li>Number of compact flash slots</li> </ul>	1; CFast
Interfaces	
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	
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
	165
Integrated Functions	
Monitoring functions	
Temperature monitoring	Yes
Watchdog	Yes
• Fan	No
<ul> <li>Monitoring function via network</li> </ul>	Optional
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static</li> </ul>	±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc.
Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static electricity</li> </ul>	to IEC 61000-4-2
Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static electricity</li> </ul> Interference immunity against high-frequency electromagnet	to IEC 61000-4-2
Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static electricity</li> </ul> <li>Interference immunity against high-frequency electromagnet <ul> <li>Interference immunity against high frequency</li> </ul> </li>	to IEC 61000-4-2 tic fields 10 V/m, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2
<ul> <li>Interference immunity against discharge of static electricity         <ul> <li>Interference immunity against discharge of static electricity</li> </ul> </li> <li>Interference immunity against high-frequency electromagnet         <ul> <li>Interference immunity against high frequency radiation</li> </ul> </li> </ul>	to IEC 61000-4-2
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference	to IEC 61000-4-2 tic fields 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
<ul> <li>Interference immunity against discharge of static electricity         <ul> <li>Interference immunity against discharge of static electricity</li> </ul> </li> <li>Interference immunity against high-frequency electromagnet         <ul> <li>Interference immunity against high frequency radiation</li> </ul> </li> </ul>	to IEC 61000-4-2 tic fields 10 V/m, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-3; 3 V/m, 2
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference	to IEC 61000-4-2 ic fields 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 ±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables	to IEC 61000-4-2 ic fields 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 ±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
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m	to IEC 61000-4-2 tic fields 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 ±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
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m	to IEC 61000-4-2 ic fields 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 ±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
<ul> <li>Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static electricity</li> </ul> </li> <li>Interference immunity against high-frequency electromagnet <ul> <li>Interference immunity against high frequency radiation</li> </ul> </li> <li>Interference immunity to cable-borne interference <ul> <li>Interference immunity on supply cables</li> </ul> </li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> </ul>	to IEC 61000-4-2 ic fields 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 ±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
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8
Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity         Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8
Interference immunity against discharge of static electricity         • Interference immunity against high-frequency electromagnet         • Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables >30m         • Interference immunity on signal cables < 30m	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric ±1 kV acc. to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Interference immunity against discharge of static electricity         • Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity to magnetic fields         • asymmetric interference         • symmetric interference         • Interference immunity to magnetic fields at 50 Hz         Emission of conducted and non-conducted interference         • Interference emission via line/AC current cables         Degree and class of protection         IP (rear)	to IEC 61000-4-2 iic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A IP65
Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static electricity</li> </ul> <li>Interference immunity against high-frequency electromagnet <ul> <li>Interference immunity against high frequency radiation</li> </ul> </li> <li>Interference immunity to cable-borne interference <ul> <li>Interference immunity on supply cables</li> </ul> </li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity on signal cables &lt; 30m</li> <li>Interference immunity against voltage surge <ul> <li>asymmetric interference</li> <li>symmetric interference</li> </ul> </li> <li>Interference immunity to magnetic fields <ul> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul> </li> <li>Emission of conducted and non-conducted interference</li> <li>Interference emission via line/AC current cables</li> <li>Degree and class of protection <ul> <li>IP (rear)</li> </ul> </li>	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A IP65 IP20
Interference immunity against discharge of static electricity         • Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity against voltage surge         • asymmetric interference         • symmetric interference         • Interference immunity to magnetic fields         • Interference immunity to magnetic fields at 50 Hz         Emission of conducted and non-conducted interference         • Interference emission via line/AC current cables         Degree and class of protection         IP (rear)         Standards, approvals, certificates         CE mark	to IEC 61000-4-2 ic fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A IP65 IP20 Yes
Interference immunity against discharge of static electricity         • Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity against voltage surge         • asymmetric interference         • symmetric interference         • Interference immunity to magnetic fields         • Interference immunity to magnetic fields at 50 Hz         Emission of conducted and non-conducted interference         • Interference emission via line/AC current cables         Degree and class of protection         IP (rear)         Standards, approvals, certificates         CE mark         CSA approval	to IEC 61000-4-2 itc fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A IP65 IP20 Yes Yes
Interference immunity against discharge of static electricity         • Interference immunity against high-frequency electromagnet         • Interference immunity against high frequency radiation         Interference immunity to cable-borne interference         • Interference immunity on supply cables         • Interference immunity on signal cables >30m         • Interference immunity on signal cables >30m         • Interference immunity on signal cables <30m	to IEC 61000-4-2 itc fields 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 ±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 ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A IP65 IP20 Yes Yes
Interference immunity against discharge of static electricity <ul> <li>Interference immunity against discharge of static electricity</li> </ul> <li>Interference immunity against high-frequency electromagnet <ul> <li>Interference immunity against high frequency radiation</li> </ul> </li> <li>Interference immunity to cable-borne interference <ul> <li>Interference immunity on supply cables</li> </ul> </li> <li>Interference immunity on signal cables &gt;30m</li> <li>Interference immunity against voltage surge <ul> <li>asymmetric interference</li> <li>symmetric interference</li> </ul> </li> <li>Interference immunity to magnetic fields <ul> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul> </li> <li>Emission of conducted and non-conducted interference</li> <li>Interference emission via line/AC current cables</li> <li>Degree and class of protection <ul> <li>IP (at the front)</li> <li>IP (rear)</li> </ul> </li> <li>Standards, approvals, certificates</li> <li>CE mark</li> <li>CSA approval</li> <li>UL approval</li> <li>UL 508</li>	to IEC 61000-4-2 iic fields 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 ±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, length > 30 m ±1 kV acc. to IEC 61000-4-5, surge, length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m ±2 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge asymmetric ±1 kV acc. to IEC 61000-4-5, surge symmetric 100 A/m; to IEC 61000-4-8 EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Yes Yes Yes Yes
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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
<ul> <li>cULus Class I Zone 2, Division 2</li> </ul>	Yes; Optional, only with Multitouch
Marine approval	
<ul> <li>Germanischer Lloyd (GL)</li> </ul>	Yes
<ul> <li>American Bureau of Shipping (ABS)</li> </ul>	Yes
<ul> <li>Bureau Veritas (BV)</li> </ul>	Yes
<ul> <li>Det Norske Veritas (DNV)</li> </ul>	Yes
<ul> <li>Korean Register of Shipping (KRS)</li> </ul>	Yes
Lloyds Register of Shipping (LRS)	Yes
Nippon Kaiji Kyokai (Class NK)	Yes
Ambient conditions	
Ambient temperature during operation	
Ambient temperature during operation	0 °C to 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/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)
Shock testing	
<ul> <li>Shock load during operation</li> </ul>	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
<ul> <li>Windows 10 Enterprise</li> </ul>	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	483 mm
Height of housing front	337 mm
Mounting cutout, width	465 mm
Mounting cutout, height	319 mm
Overall depth	76 mm
Weights	
Weight, approx.	8.4 kg
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