SIEMENS

Data sheet

6AV7241-7KH08-0FA0

SIMATIC IPC 477E 19" Multitouch (1366 x 768); 4 USB (back), Ethernet (10/100/); XEON E3-1505L; 3x Gbit Ethernet (IE/PN); 16 GB and NVRAM; without RS 232/RS485; without PCIe; Windows 10 IoT Enterprise 2016 LTSB (64bit) for Xeon; Without replaceable mass storage; 240 GB solid-state drive SATA Without SIMATIC software; 24 V DC industrial power supply

General information	Without SIMATIC software; 24 V DC industrial power supply
	IPC477E
Product type designation	IF 0477E
Display	
Design of display	19" TFT multi-touch
Screen diagonal	18.5 in
Resolution (pixels)	4 000 sizel
Horizontal image resolution	1 366 pixel
Vertical image resolution	768 pixel
Backlighting	
 MTBF backlighting (at 25 °C) 	50 000 h
Control elements	
Input device	
Mouse, at front	No
Keyboard fonts	
Function keys	No
alphanumeric keyboard	No
Touch operation	
Design as multi-touch screen	Yes; Projective-capacitive
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. 82 W, 110 230 V AC
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	
	E12 kbyte: 128 KD cap be stared in the huffer time: entired
Retentive data area (incl. timers, counters, flags), max.	512 kbyte; 128 KB can be stored in the buffer time; optional

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CE markYesCSA approvalYesUL approvalYes• UL 508YescULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch	Hardware configuration	
Number of Ci skin1. OptimalNumber of compact filen skin1. Circat:Number of naturial Enternat intrafeces3. Sk Elternet (R45)USB port4. USB sk 3.0Connection for keybaardmouleUSB sk JSBSafal likefacesWithout 2. CoM (RS 2027 / 422 / 485), selectable in the BIOSViete interfaces2. DisplayfortIndenfacesWithout 2. CoM (RS 2027 / 422 / 485), selectable in the BIOSViete interfaces2. Displayfort- 0100 MppsYes- 1010	Slots	
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Instruct of industrial Ethermet interfaces 3. Sk Ethermet (RL45) USB roof 44. USB 3.0 Connection for keyboard/mouse USB / USB Serial interface Without / 24 COM (RS 232 / 422 / 485), selectable in the BIOS Video interfaces 24. Display/fort - Graphics interface 24. Display/fort - Industrial Ethernet - - Industrial Ethernet - - Industrial Ethernet Yes Indo Mops Yes Indo Mops Yes Indo Mops Yes Indo Mops Yes Toom Mops Yes		
Number of industival Ethernet interfaces 3; 3 % Ethernet (RJ45) USB port 4x USB 3.0 USB port 4x USB 3.0 Serial interface Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS Vices interface 2x DisplayPort • Graphics interface 3x Ethernet (RJ45) • Industrial Ethernet interface 3x Ethernet (RJ45) • Industrial Ethernet information 3x Ethernet (RJ45) • Industrial Ethernet information Yes Usb adaptostics bitable information Usb adaptostics Usb adaptostics Yes • Farm persitiva monitoring Yes • Watchdog Yes • Interference immunity against discharge of static electricity ef KV contact discharge act. to IEC 61000-4.2; ±8 KV air discharge acc. to IEC 61000-4.2; ±8 KV air discharge acc. to IEC 61000-4.3; 3 Vim, 2, 2.7 Interference immunity against high-frequency radiation ef KV contact discharge acc. to IEC 61000-4.3; a Vim, 2, 2.7 Interference immunity against high-frequency radiation ef KV contact discharge acc. to IEC 61000-4.3; a Vim, 2, 2.7 Interference immunity against high-frequency radiation ef KV contact discharge acc. to IEC 61000-4.4; surge asymmetric Interference immunity against hig		1; CFast
UBB prd44 UBB 3.0Connection for keyboardmouseUBS / UBSConnection for keyboardmouseUBS / UBSConnection for keyboardmouseUBS / UBSCarghics interfaces2 × Display/Part- Graphics interfaces3 × Ehernet (RJ45)- 100 MopsYes- 100 MopsYes- 100 MopsYes- 100 MopsYes- 100 MopsYes- 100 MopsYesKerruft-Billing products/Bibling informationVesKerruft-Billing products/Bibling informationYes- 100 MopsYesKerruft-Billing products/Bibling functionsYes- Tomperature monitoringYes- NoOpticalWatchdogYes- Inference Immunity against discharge of state electricity800 Moles- Inference Immunity against discharge of state100 Moles 2.00 Mile. B0 Malarse ons to IEC 61000-4.2, 18 KV air discharge ace. to IEC 61000-4.3, 18 W, 200 Nile. 200 Mile. B0 Malarse to IEC 61000-4.3, 18 W, 200 Nile. B0 Malarse to IEC 61000-4.3, 18 W, 200 Nile. 200 Mile. B0 Malarse to IEC 61000-4.3, 19 W, 200 Nile. B0 Malarse to IEC 61000-4.3, 19 W, 200 Nile. B0 Malarse to IEC 61000-4.3, 19 W, 200 Nile. 200 Mile. B0 Malarse to IEC 61000-4.3, 19 W, 200 Nile. 200 Mile. B0 Malarse to IEC 61000-4.3, 19 W, 200 Nile. 200 Mile. B0 Malarse to IEC 61000-4.3, 19 W, 200 Nile. 200 Mile. 20		
Connection for keyboard/mouseUSB / USBserial interfaceWithout / 2x COM (RS 232 / 422 / 485), selectable in the BIOSVideo interface2x DisplayPort- Graphics interface3x Ethernet (RJ45)- Industrial Ethernet interface3x Ethernet (RJ45)- 100 MbpsYes- 100 Motoria function via networkOptional- 100 Motoria function via network0- 100 Motoria function via network0- 100 Mithz acc in IEC 6 1000-4-2; ±8 KV air discharge acc. In IEC 6 1000-4-2; ±8 KV air discharge acc. In IEC 6 1000-4-2; ±8 KV air discharge acc. In IEC 6 1000-4-3; ±9 KV air discharge acc. In IEC 6 1000-4-3; ±9 KV air discharge acc. In IEC 6 1000-4-3; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±8 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±9 KV air discharge acc. In IEC 6 1000-4-4; ±1 KV air discharge acc. In IEC 6 1000-4-4; ±1 KV air discharge acc. In IEC 6 1000-4-4; ±1 KV air discharge acc. In IEC 6 10	Number of industrial Ethernet interfaces	3; 3x Ethernet (RJ45)
serial interface Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS Video interfaces Scapine's interface Graphics interface Zx DisplayPort industrial Etherine Interface 3x Ethernet (RJ45) - 100 Mbps Yes - 100 Mbps Yes interrupts/diagnostics/status information Ves Exe diagnostics Yes interrupts/diagnostics/status information Ves Temperature monitoring Yes * Vacitolog Yes * Vacitolog Yes * Watcholog Yes * Interference Immunity against discharge of static electricity if 6 kV contact discharge acc. to IEC 61000-4-2; x8 kV art discharge acc. to IEC 61000-4-2; x8 kV art discharge acc. to IEC 61000-4-1; x8 kV art discharge acc. to IEC 61000-4-2; x8 kV art discharge acc. to IEC 61000-4-4; purgt. 21 kV acc. to IEC 61000-4-2; x8 kV acc. to IEC 61000-4-4; purgt. 21 kV acc. to IEC 61000-4-4	USB port	4x USB 3.0
Wideo interfaces Ac Display Fort • Capital is interface 2x Display Fort • Industrial Ethernet Interface 3x Ethernet (RJ45) • - 1000 Mbps Yes • - 1000 Mbps Yes • Industrial Ethernet Interface 3x Ethernet (RJ45) • - 1000 Mbps Yes • Interfaceds Yes • Interfaceds Yes • Fam No • Watchdog Yes • Watchdog Yes • Non Distrial function via network Optional • Matchdog function via network Optional • Interference Immunity against discharge of static electricity # St V contact discharge ac. to IEC 61000-4.2; ±8 kV air discharge ac. to IEC 61000-4.4; ±8 kV ai	Connection for keyboard/mouse	USB / USB
• Oraginics interface2 K DisplayPortIndustrial EfferenceX- Ethernet (RJ4S)- 100 MpbpYes- 100 MpbpYesIndustrial EfferenceYesInterplay Effectivity InformationYesEast agnosities status InformationYesInterplay Effectivity InformationYesInterplay Effectivity InformationYesInterplay Effectivity InformationYesInterplay Effectivity InformationYesInterplay Effectivity InformationYesInterplay Effectivity Information (Sectivity Information (Sectivi	serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
Industrial Elhernet SX Elhernet (RJAG) - 100 Mbps Yes - 100 Mbps Yes Exercipatiol (anguarditic valuation in the interference in munity against discharge of static electricity Yes Nontoning function via network Optional Monitoring function via network Optional Interference immunity against high-frequency electromagnetic fields 10 Vm, B0 2000 MHz, B0 % AM acc. to IEC 61000-4.2; #8 KV air discharge acc. to IEC 61000-4.5; #8 KV acc. to IEC 61000-4.4; List Retwords Inteference i	Video interfaces	
industrial Ehemet interface34 Ehemet (RJ45)-100 MpBYes-100 MpBYesinterruptional control of the part o	Graphics interface	2x DisplayPort
- 100 MbpsYes- 100 MbpsYes- 100 MbpsYesBus depositesYesIntegrated Functions///////////////////////////////	Industrial Ethernet	
−1000 Mbps Yes Iterruptidapnotics/italian information Yes Iterruptidapnotics/italian information Yes Monitoring functions Yes Iterruptidapnotics/italian information Yes Valathdog Yes Valathdog Yes Valathdog Yes Valathdog Yes Valathdog Optional Valathdog Yes Valathdog Optional Valathdog Yes	 Industrial Ethernet interface 	3x Ethernet (RJ45)
Interference immunity against high frequency radiation ± kV acc. b IEC 61000-4-2; ± kV ac: b IEC 61000-4-3; Vm; 2 2.7; Interference immunity against high frequency radiation ± f kV contact discharge ac: b IEC 61000-4-2; ± kV air discharge ac: b IEC 61000-4-2; ± kV ac: b IEC 61000-4-2; ± kV ac: b IEC 61000-4-3; Vm; 2 2.7; Interference immunity against high frequency radiation ± f kV contact discharge ac: b IEC 61000-4-3; Vm; 2 2.7; Interference immunity against high frequency radiation ± kV ac: b IEC 61000-4-4; b urg; ± kV ac: b IEC 61000-4-5; surge agrimetin: Interference immunity on signal cables >30m ± kV ac: b IEC 61000-4-4; surge agrimetin: Interference immunity on signal cables >30m ± kV ac: b IEC 61000-4-5; surge agrimetin: Interference immunity against high frequency radiation ± kV ac: b IEC 61000-4-5; surge agrimetin: Interference immunity against disk = 30m ± kV ac: b IEC 61000-4-5; surge agrimetin: Interference immunity against bigh frequency radiation ± kV ac: b IEC 61000-4-5; surge agrimetin: Interference immunity against bigh frequency radiation ± kV ac: b IEC 61000-4-5; surge agrimetin: Interference immunity ag	— 100 Mbps	Yes
Bus diagnostics Yes theprated Functions	— 1000 Mbps	Yes
Magnetic Functions Temperature monitoring	nterrupts/diagnostics/status information	
Monitoring functions Yes • Valahodog Yes • Fan No • Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity • Interference immunity against high-frequency electromagnetic fields • 10 V/m, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-2; ±8 KV air discharge acc. to IEC 61000-4-3; 3 V/m, 2 2.7 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 Interference immunity to cable-borne interference 10 V/m, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-4; surge asymmetric • Interference immunity on signal cables >30m 11 KV acc. to IEC 61000-4-4; surge asymmetric • Interference immunity on signal cables >30m 11 KV acc. to IEC 61000-4-4; surge asymmetric • Interference immunity on signal cables >30m 11 KV acc. to IEC 61000-4-4; surge asymmetric • Interference immunity on signal cables >30m 11 KV acc. to IEC 61000-4-4; surge asymmetric • Interference immunity on signal cables >30m 11 KV acc. to IEC 61000-4-5; surge asymmetric • Interference immunity on magnetic fields 100 Am; to IEC 61000-4-5; surge asymmetric • Interference immunity on magnetic fiel	Bus diagnostics	Yes
• Temperature monitoringYes• WatchdogYes• NoOptional• Monitoring function via networkOptionalMOInterference immunity against discharge of static electricityaf KV contact discharge acc. to IEC 61000-4.2; ±8 KV air discharge acc. to IEC 61000-4.2; ±8 KV air discharge acc. to IEC 61000-4.2; ±8 KV air discharge acc. to IEC 61000-4.3; 3 Vm, 2 2.7 GHz Terference immunity against high-frequency electromagnetic fieldsInterference immunity against high-frequency electromagnetic fieldsaf 2 KV acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHz To V, 10 KHz 80 MHz acc. to IEC 61000-4.3; a Vm, 2 2.7 GHZ To V, 10 KHZ 80 MHZ acc. to IEC 61000-4.3; a VM, 2 2.7 GHZ To V, 10 KHZ 80 MHZ acc. to IEC 61000-4.3; a VHz acc. to IEC 61000-4.3; a VK acc. to IEC 61000-4.3; a VK acc. to IEC 61000-4.3; a VK acc. to I	ntegrated Functions	
• Watchdog Yes • Fan No • Monitoring function via network Optional • Monitoring function via network Optional • Interference immunity against discharge of static electroits 46 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-3; 3 V/m, 2 2.7 • 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 • 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 • Interference immunity on supply cables 12 kV acc. to IEC 61000-4-4; Surge asymmetric • Interference immunity on signal cables > 30m 12 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables > 30m 14 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity against voltage surge 14 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity against voltage surge 10 V/m, k0 10E 61000-4-5, surge asymmetric • Interference immunity against voltage surge 14 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity to magnetic fields 10 V/m; k0 10E 61000-4-5, surge asymmetric • Interference immunity to magnetic fields	Monitoring functions	
• WatchdogYes• FanNo• Monitoring function via networkOptional• Monitoring function via networkoptional• Monitoring function via networkaf kV contact discharge acc. to IEC 61000-4:2; ± kV air discharge acc. to IEC 61000-4:2; ± kV air discharge acc. to IEC 61000-4:2;• Interference immunity against discharge of staticaf kV contact discharge acc. to IEC 61000-4:2; ± kV air discharge acc. to IEC 61000-4:3; V/m, 2 2:7• Interference immunity against high frequency radiation10 V/m, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4:3; V/m, 2 2:7• Interference immunity on supply cables± 2 kV acc. to IEC 61000-4:4; surge asymmetric• Interference immunity on supply cables12 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity on signal cables > 30m± 1 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity on signal cables > 30m± 1 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity on signal cables > 30m± 1 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity on signal cables > 30m± 1 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity on agnetic fields± 2 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity to magnetic fields± 1 kV acc. to IEC 61000-4:5, surge asymmetric• Interference immunity to magnetic fields± 1 kV acc. to IEC 61000-4:5• Interference immunity to magnetic fields± 1 kV acc. to IEC 61000-4:5• Interference immunity to magnetic fields± 1 kV acc. to IEC 61000-4:5• Interference immunity to magnetic fields± 1 kV acc. to IEC 61000-4	5	Yes
• Fam No • Monitoring function via network Optional No • Monitoring function via network Optional 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; ±8 kV air discharge acc. to IEC 61000-4-3; 3 V/m, 2 2.7 Interference immunity against high-frequency electromagnetic fields - • Interference immunity on signal cables >30m ±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 asymmetric • Interference immunity on signal cables >30m ±2 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables >30m ±1 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables >30m ±1 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables >30m ±1 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables >30m ±1 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables >30m ±1 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity against indiks to DHz 100 A/m; to IEC 61000-4-5, surge asymmetric • Interference emission via line/AC current cables		
• Monitoring function via network Optional MC 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; #8 KV air discharge acc. to IEC 61000-4-2; #8 KV air discharge acc. to IEC 61000-4-3; #8 KV air discharge acc. to IEC 61000-4-2; #8 KV air discharge acc. to IEC 61000-4-3; #8 KV air discharge acc. to IEC 61000-4-3; #8 KV air discharge acc. to IEC 61000-4-3; #8 KV air discharge acc. to IEC 61000-4-4; #8 KV air discharge acc. to IEC 61000-4-4; #8 KV air discharge acc. to IEC 61000-4-5; #8 KV acc. to IEC 61000-4-6; #8 KV acc. to IEC 61000-4-8; #8 KV acc. to IEC 61000-4-8; #8 KV acc. to IEC 61000-4-8; #8 KV acc. to IEC 61000-4; #8 KV acc. to IEC 61000-4; #8 KV acc. to IEC 610	-	
Interference immunity against discharge of static electricity +# KV contact discharge acc. to IEC 61000-4-2; ±8 KV air discharge acc. to IEC 61000-4-2; ±8 KV air discharge acc. to IEC 61000-4-2; ±8 KV air discharge acc. to IEC 61000-4-2; Interference immunity against high-frequency radiation 10 Vm, 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 61000-4-5 Interference immunity osaginst high frequency radiation 10 Vm, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-5 Interference immunity osaginst bigh frequency radiation 10 VM, 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-5 Interference immunity on signal cables >30m ±2 KV acc. to IEC 61000-4-5, surge asymmetric Interference immunity on signal cables >30m ±1 KV acc. to IEC 61000-4-4; burst; elegth > 30 m Interference immunity on signal cables <30m		
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 rediction electricity 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 10 V/m. 80 2 000 MHz, 80 % AM acc. to IEC 61000-4-6 Interference immunity to cable-borne interference 22 kV acc. to IEC 61000-4-6 Interference immunity on signal cables >30m #2 kV acc. to IEC 61000-4-5, surge asymmetric interference immunity on signal cables >30m Interference immunity on signal cables >30m #1 kV acc. to IEC 61000-4-5, surge asymmetric is symmetric interference Interference immunity to magnetic fields 10 A/m; to IEC 61000-4-5, surge asymmetric is symmetric interference Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-5, surge asymmetric is symmetric interference Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-5, surge asymmetric is symmetric interference Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-5, surge asymmetric is symmetric interference Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-5, surge asymmetric is symmetric interference Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-6, CISPR 22 Class B, FCC Class	-	
• Interference immunity against discharge of static electricity#6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-42Interference immunity against high-frequency electromagnetic fields• Interference immunity to cable-borne interference• Interference immunity to cable-borne interference• Interference immunity on supply cables22 kV acc. to IEC 61000-4-5, surge asymmetric• Interference immunity on signal cables >30m22 kV acc. to IEC 61000-4-5, surge, length > 30 m• Interference immunity on signal cables >30m24 kV acc. to IEC 61000-4-5, surge, length > 30 m• Interference immunity on signal cables >30m24 kV acc. to IEC 61000-4-5, surge, length > 30 m• Interference immunity on signal cables >30m24 kV acc. to IEC 61000-4-5, surge asymmetric• Interference immunity on signal cables >30m24 kV acc. to IEC 61000-4-5, surge asymmetric• symmetric interference24 kV acc. to IEC 61000-4-5, surge asymmetric• symmetric interference24 kV acc. to IEC 61000-4-5, surge asymmetric• Interference immunity to magnetic fields100 A/m; to IEC 61000-4-5, surge asymmetric• Interference emismon via Inte/Ac current cablesEN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A• Interference emismon via Inte/Ac current cablesFe 61000-4-2• Interference emismon via Inte/Ac current cablesFe 61000-6-4, CISPR 22 Class B, FCC Class A• Interference emismon via Inte/Ac current cablesFe 61000-6-4, CISPR 22 Class B, FCC Class A• Interference emismon via Inte/Ac current cablesYes• Interference emismon via Inte/Ac current c		
electricity 61000-4-2 Interference immunity against high-frequency radiation 61000-4.2 interference immunity to cable-borne interference 64bz; 10 V, 10 kHz 80 MHz acc. to IEC 61000-4.3; 3 V/m, 2 2.7 interference immunity to cable-borne interference 24 kV acc. to IEC 61000-4.4; burst; 41 kV acc. to IEC 61000-4.5; surge asymmetric interference immunity on signal cables >30m 42 kV acc. to IEC 61000-4.5; surge asymmetric interference immunity on signal cables >30m 41 kV acc. to IEC 61000-4.5; surge asymmetric interference immunity on signal cables >30m 41 kV acc. to IEC 61000-4.5; surge asymmetric interference immunity on signal cables >30m 41 kV acc. to IEC 61000-4.5; surge asymmetric interference immunity on signal cables >30m 41 kV acc. to IEC 61000-4.5; surge asymmetric interference immunity to magnetic fields 30 Am; to IEC 61000-4.5; surge asymmetric interference immunity to magnetic fields at 50 Hz 100 Am; to IEC 61000-4.5; surge asymmetric interference immunity to magnetic fields at 50 Hz 100 Am; to IEC 61000-4.5; surge asymmetric interference immunity to magnetic fields at 50 Hz 100 Am; to IEC 61000-4.5; surge asymmetric interference immunity to magnetic fields at 50 Hz 100 Am; to IEC 61000-4.4; EV Interference immunity to magnetic fields		+6 kV contact discharge acc. to IEC 61000-4-2: +8 kV air discharge acc. to IEC
• 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 Interference immunity to cable-borne interference 42 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric • Interference immunity on signal cables >30m ±2 kV acc. to IEC 61000-4-5, surge symmetric • Interference immunity on signal cables >30m ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m • Interference immunity on signal cables <30m		
GHz; 10 V, 10 kHz 80 MHz acc. to IEC 61000-4-6 Interference immunity on supply cables 22 kV acc. to IEC 61000-4-5, surge asymmetric interference immunity on supply cables 22 kV acc. to IEC 61000-4-5, surge asymmetric interference immunity on signal cables >30m 42 kV acc. to IEC 61000-4-5, surge, length > 30 m interference immunity on signal cables <30m	Interference immunity against high-frequency electromagnetic fiel	ds
GHz; 10 V, 10 kHz 80 MHz acc. to IEC 61000-4-6 Interference immunity to supply cables 22 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on supply cables 22 kV acc. to IEC 61000-4-5, surge, asymmetric • Interference immunity on signal cables >30m 42 kV acc. to IEC 61000-4-5, surge, length > 30 m • Interference immunity on signal cables <30m	 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
• Interference immunity on supply cables ±2 kV acc. to IEC 61000-4.4, burst; ±1 kV acc. to IEC 61000-4.5, surge asymmetric • Interference immunity on signal cables >30m ±2 kV acc. to IEC 61000-4.5, surge asymmetric • Interference immunity on signal cables <30m		GHz; 10 V, 10 kHz 80 MHz acc. to IEC 61000-4-6
symmetric: ±2 kV acc. to IEC 61000-4-5, surge asymmetric • Interference immunity on signal cables < 30m	Interference immunity to cable-borne interference	
• Interference immunity on signal cables > 30m ± 2 kV acc. to IEC 61000-4-5, surge, length > 3 m • Interference immunity on signal cables < 30m	 Interference immunity on supply cables 	
• Interference immunity on signal cables < 30m		
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 asymmetric • Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-5, surge symmetric • 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 (at the front) IP65 IP (ards, approvals, certificates 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 EAC (formerly Gost-R) Yes EAC (formerly Gost-R) Yes EAC (formerly Gost-R) Yes <td></td> <td>· ·</td>		· ·
Interference immunity against voltage surge ±2 kV acc. to IEC 61000-4-5, surge asymmetric • symmetric interference ±1 kV acc. to IEC 61000-4-5, surge asymmetric Interference immunity to magnetic fields ±1 kV acc. to IEC 61000-4-8 Emission of conducted and non-conducted interference 100 A/m; to IEC 61000-4-8 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 65 IP (rear) IP 65 IP (rear) IP 20 Standards, approvals, certificates Yes CE mark Yes UL approval Yes eUL 508 Yes cULus Yes RCM (formerly C-TICK) Yes KC approval Yes EAC (formerly Gost-R) Yes EAC (formerly Gost-R) Yes EAC (formerly Gost-R) Yes EAC (torus erage Yes EAC (Interference immunity on signal cables < 30m 	
• 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 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 Interference emission via line/AC current cables EM 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Opered and class of protection IP (at the front) IP (at the front) IP65 IP (ren') IP20 Standards, approvals, certificates Yes CE mark Yes ol Ll opproval Yes ol Ll opproval Yes ol Ll os Yes CK (formerly C-TICK) Yes KC approval Yes CK (formerly Gost-R) Yes FCC Yes FCC Yes EMC CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A UL so accol Yes FCC Yes FCC Yes EMC CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Clas	Interference immunity against voltage surge	burst, ichgur > 5 m
• symmetric interference ±1 kV acc. to IEC 61000-4-5, surge symmetric Interference immunity to magnetic fields at 50 Hz 100 A/m; to IEC 61000-4-8 Emission of conducted and non-conducted interference EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Degree and class of protection EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Degree and class of protection IP 65 IP (at the front) IP 65 IP (rear) IP20 Standards, approvals, certificates Yes CE mark Yes CJLus Yes e UL 508 Yes cULus Yes RCM (formerly C-TICK) Yes KC approval Yes EAC (formerly Gost-R) Yes EAC (tormerly Gost-R) Yes EMC CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A		+2 kV and to EC 61000.4.5 surge asymptotic
Interference immunity to magnetic fields 100 A/m; to IEC 61000-4-8 Emission of conducted and non-conducted interference 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 IP65 IP (at the front) IP65 IP (rear) IP20 Standards, approvals, certificates Yes 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 Yes; Optional, only with Multitouch		
• Interference immunity to magnetic fields at 50 Hz100 A/m; to IEC 61000-4-8Emission of conducted and non-conducted interferenceEN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A• Interference emission via line/AC current cablesEN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A• Degree and class of protectionIP65IP (at the front)IP65IP (rear)IP20Standards, approvals, certificatesYesCE markYesCE markYesCSA approvalYesUL approvalYes• UL 508YescULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch		±1 kV acc. to IEC 61000-4-5, surge symmetric
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 Yes CE mark Yes CSA approval Yes UL approval Yes oUL 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 Yes; Optional, only with Multitouch		
Interference emission via line/AC current cablesEN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class ADegree and class of protectionIP 65IP (at the front)IP65IP (rear)IP20Standards, approvals, certificatesYesCE markYesCSA approvalYesUL approvalYes• UL 508YescULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch		100 A/m; to IEC 61000-4-8
Degree and class of protection IP 65 IP (at the front) IP20 IP (rear) IP20 Standards, approvals, certificates IP20 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 Yes; Optional, only with Multitouch		
IP (at the front) IP65 IP (rear) IP20 Standards, approvals, certificates IP20 CE mark Yes CSA approval Yes UL approval Yes • UL 508 Yes cULus 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 Yes; Optional, only with Multitouch		EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
P (rear)IP20Standards, approvals, certificatesCE markYesCSA approvalVL approvalYesUL approvalYes• UL 508YescULusYescULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch		
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 FCC Yes FCC Yes EMC Ves EMC CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A Use in hazardous areas Yes; Optional, only with Multitouch	IP (at the front)	
CE markYesCSA approvalYesUL approvalYes• UL 508YescULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch		IP20
CSA approvalYesUL approvalYes• UL 508YescULusYescULusYesRCM (formerly C-TICK)YesKC approvalYesFAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-64; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch	Standards, approvals, certificates	
UL approvalYes• UL 508YescULusYescULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch	CE mark	Yes
• UL 508YescULusYesRCM (formerly C-TICK)YesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch	CSA approval	Yes
cULusYesRCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasYes; Optional, only with Multitouch	UL approval	Yes
RCM (formerly C-TICK)YesKC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasVes; Optional, only with Multitouch	• UL 508	Yes
KC approvalYesEAC (formerly Gost-R)YesFCCYesEMCCE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class AUse in hazardous areasVes; Optional, only with Multitouch	cULus	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 Ves; Optional, only with Multitouch	RCM (formerly C-TICK)	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 Ves; Optional, only with Multitouch	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 • ATEX Zone 2 Yes; Optional, only with Multitouch		Yes
EMC CE, EN 61000-6-4; CISPR 22:2004 Class A; FCC Class A Use in hazardous areas • ATEX Zone 2 • ATEX Zone 2 Yes; Optional, only with Multitouch		Yes
Use in hazardous areas • ATEX Zone 2 Yes; Optional, only with Multitouch		
ATEX Zone 2 Yes; Optional, only with Multitouch		
		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
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 $^\circ\mathrm{C}$ (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	
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	464 mm
Height of housing front	294 mm
Mounting cutout, width	448 mm
Mounting cutout, height	278 mm
Overall depth	76 mm
Weights	
Weight, approx.	6.6 kg
last modified:	1/31/2021 🖸