SIEMENS

Data sheet

6ES7647-8BB21-0LA2

SIMATIC IPC227E (Nanobox PC); 1x display port; 2x 10/100/1000 Mbit/s Ethernet RJ45; 1 x USB3.0, 3 x USB2.0; CFast slot; 24 V DC industrial power supply Celeron N2930 (4C/4T) 4 GB RAM; Box: Basis without COM without operating system 8 GB CFAST; without SIMATIC software Wall mounting

	system 8 GB CFAST; without SIMATIC software Wall mounting
Installation type/mounting	
Mounting	DIN rail, wall mounting, portrait mounting
Design	Box PC, built-in unit
Supply voltage	
Type of supply voltage	24 V DC
Mains buffering	
 Mains/voltage failure stored energy time 	20 ms
Processor	
Processor type	Intel Celeron N2807 / N2930, Intel Atom E3845
Chipset	SoC
Graphic	
Graphics controller	Integrated
Drives	
Hard disk	2.5" SATA ≥ 320 GB
SSD	Yes; 256 Eco / 240 / 480 GB
Memory	
Type of memory	DDR3L SO-DIMM
Main memory	2/4/8 GB
Capacity of main memory, max.	8 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 PCle (x1) (optional)
 Number of PCI slots 	1; Optional
 Number of compact flash slots 	1; CFast
Interfaces	
Number of industrial Ethernet interfaces	2; 2x Ethernet (RJ45)
USB port	1x USB 3.0 / 3x USB 2.0
Connection for keyboard/mouse	USB / USB
serial interface	Without / 2x COM (RS 232 / 422 / 485), selectable in the BIOS
Video interfaces	
Graphics interface	1x DisplayPort
Industrial Ethernet	
Industrial Ethernet interface	2x Ethernet (RJ45)
— 100 Mbps	Yes
— 1000 Mbps	Yes
Integrated Functions	
Monitoring functions	
Temperature monitoring	Yes
Watchdog	Yes
Status LEDs	1x power, 3x user
• 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	S

Interference immunity to apply calcies Provided and according to the Control of Control	 Interference immunity against high frequency radiation 	10 V/m for 80 - 1 000 MHz and 1.4 - 2 GHz, 80% AM acc. to IEC 61000-4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10 kHz - 80 MHz, 80% AM acc. to IEC 61000-4-6
• Interference immunity on supply cables \$2 Vac. to EC 61000-4, burst, F1 Vac. to EC 61000-4, supple symmetric • Interference immunity on signal cables - 30m \$2 Vac. to EC 61000-4, burst, furgith - 3 m • Interference immunity on signal cables - 30m \$2 Vac. to EC 61000-4, burst, furgith - 3 m • symmetric interference \$2 Vac. to EC 61000-4, burst, furgith - 3 m • symmetric interference \$2 Vac. to EC 61000-4, burst, furgith - 3 m • symmetric interference \$2 Vac. to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000-4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000, 4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000, 4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000, 4, burst, furgith - 3 m • interference immunity to magnetic fields 100 Am; to EC 61000, 4, burst, furgith - 3 m <td< td=""><td>Interference immunity to cable-borne interference</td><td></td></td<>	Interference immunity to cable-borne interference	
Itsefference immunity on signal cables < 30m If W act, to IFC 61000 4-4; burst; length < 3 m; s2 W act, to IFC 61000 4-4; burst; length < 3 m; s2 W act, to IFC 61000 4-4; burst; length < 3 m; s2 W act, to IFC 61000 4-5, surge symmetric symmetric interference symmetric interference interference immunity to magnetic fields at 50 Hz Interference Interference immunity to magnetic fields at 50 Hz Interference In		
Interference immunity splints veltage surge 42 kV ac: to EC 61000-45, surge asymmetric • symmetric interference 42 kV ac: to EC 61000-45, surge asymmetric • Interference immunity to magnetic fields at 50 Hz. 100 Am; to EC 61000-4.0 Emission of consider and not-conditional interference EN 8100-6.3. EN 61000-6.4. (SISPR 22 Class A Organs and Class of protection IP dogree of protection IP dogree of protection IP 40 Standards approvals, estificates C CE mark Yes UL approval Yes CULus Yes CULus Yes CULus Yes EMC Yes CULus Yes CULus Yes CULus Yes CAD Yes CAD Yes CULus Yes CULus Yes CULus Yes CAD Yes CAD Yes CULus Standards steas Yes Standards steas CULus Standards steas	 Interference immunity on signal cables >30m 	±2 kV acc. to IEC 61000-4-5, surge, length > 30 m
Interference immunity appared values using a significant of the sign methods interference 21 kV acc. to IEC 61000-4-5, surge asymmetric • symmethic interference 21 kV acc. 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 61000-4-8 Emission of conducted informace emission value interference En 1000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Obgroe and class of protection IP 40 IP degree of potection IP 40 ID approval Yes UL approval Yes UL sporo Yes CE mark. Yes UL approval Yes CCD CE, EN 61000-6-4, 2007, EN 6100-6-2, 2006 Dust protection Protection against foreign bodies > 1 mm Use in hazardosa areas Yes: Optional • AFEZ Zone 2 Yes: Optional <td> Interference immunity on signal cables < 30m </td> <td>±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4;</td>	 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;
is anymetric interference is 24 V acc. to IEC 6 1000-4.5, surge asymmetric interference immunity to magnetic fields interference	, ,	burst; length > 3 m
±1 kV acc. to IEC 6 1000-4.5, surge symmetric Interference immunity to magnetic fields at 50 Hz 100 A/m. to IEC 6 1000-4.3 Emission of conducted and non-conducted Interference Emission of conducted and non-conducted Interference Interference immunity to magnetic fields at 50 Hz Emission of conducted and non-conducted Interference Interference immunity to magnetic fields EM 81000-63, EN 61000-64, CISPR 22 Class B, FCC Class A Pagnet optotection PAd Standards, approvals, certificates FAd CE mark Yes UL approval Yes UL approval Yes CL mark Yes UL approval Yes CL approval Yes CL approval Yes CL approval Yes CL approval Yes CC C Yes RCM (primetry C-TICK) Yes Dast protection Protection against forcing bioles > 1 mm Use Inbazatous areas Yes: Optional • ATEX Zone 2 Yes: Optional • ATEX Zone 2 Yes: Optional • CECEx Zone 2 Yes: Optional	Interference immunity against voltage surge	
Interference immunity to magnetic fields at 50 Hz 100 Atm; to IEC 81000-4-8 Interference emission via line/AC current cables EN 81000-6-4, CISPR 22 Class B, FCC Class A Orgens and class of protection IPA0 Standards, approvals, contificates Yes CE mark Yes UL approval Yes CE mark Yes UL approval Yes CC mark Yes CLUs Yes CLUs Yes CCL Yes CCC Yes FCC	 asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
 Interference immunity to magnetic fields of 0 Hz Interference emission via line/AC current cables Emission of conducted and non-conducted interference Interference emission via line/AC current cables EN 61000-6-3, EN 61000-6-3, CISPR 22 Class B, FCC Class A Pagee and class of protection IP40 Standards, approvals, certificates En 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A CE mark Ves U, approval, certificates Yes CE mark Yes U, 508 Yes CLUs Yes FCO Yes FCO Yes FCO Yes FCO Yes EMG OCE, EN 61000-6-4, 2007, EN 61000-6-2, 2005 Dust protection Errore to find forcing bodies > 1 mm Vesi, Optional Yes; Optional • ATEX Zone 2 Yes; Optional • ATEX Zone 2 Yes; Optional • Cluc Sis I Zone 2, Division 2 Yes; Optional • Cluc Sis I Zone 2, Division 2 Yes; Optional • Cluc Sis I Zone 2, Division 2 Yes; Optional • Cluc Sis I Zone 2, Division 2 Yes; Optional	symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Ensisten of conducted and non-conducted interference EN 61000-6-4, CISPR 22 Class B, FCC Class A Degree and class of protection IP degree of protection IP degree of protection IP 40 Standards, approval Yes OE mark Yes UL approval Yes OE mark Yes UL approval Yes CULus Yes CULus Yes RCM (formerly C-TICK) Yes FCC Yes FCC Yes FCC Yes FCC Yes ENC Conce Yes FCC Yes ENC Conce Yes FCC Yes ENC Conce Yes FCC Xone 2 Yes Surget and therefore and theref	Interference immunity to magnetic fields	
• Interfarence emission via line/AC current cables EN 61000-6-3, EN 61000-6-4, CISFR 22 Class B, FCC Class A Degree and class of protection IP40 Standards, approvals, certificates CE mark Yes UL approval Yes UL 050 Yes OLL 050 Yes CC mark Yes RCM (formerly C-TICK) Yes Dast protection Protection against foreign bodies > 1 nm Use in hazardous areas - • ATEX Zone 2 Yes: Optional • OLlus Class Izone 2, Division 2 Yes: Optional • OLlus Class Izone 2, Division 2 Yes: Optional • OLlus Class Izone 3, Division 2 Yes • Del Marake Verings (DN) Yes • De Marake Verings (DN) Yes	 Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Degree and class of protection IP dogree of protection IP degree of protection IP dogree of protection CE mark Yes UL approval Yes -UL 080 Yes CULUs Yes CULUs Yes CULUs Yes CCC Yes CCC Yes FCC Yes CLICLAS Clone 2 Yes: Optional IECEX Zone 2 Yes: Optional IECEX Zone 2 Yes: Optional IECEX Zone 2 Yes: Optional IDeta Instance for Shipping (KRS) Yes IDaydis Register of Shipping (KRS) </td <td>Emission of conducted and non-conducted interference</td> <td></td>	Emission of conducted and non-conducted interference	
Standards, approvals, certificates CE mark Yes UL approval Yes • UL 508 Yes cULus Yes cULus Yes cULus Yes cULus Yes cULus Yes CCC Yes FCC Yes FCC Yes EMC CE, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use In hazardous areas ************************************		EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
CE mark Yes UL approval Yes ULL 508 Yes cULus Yes RCM (fomenty C-TICK) Yes KC approval Yes FCC Yes EMC Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas Yes: Optional FCC Xone 2 Yes: Optional ECEX Zone 2 Yes: Optional Yes Ecex Zone 2 Yes 	IP degree of protection	IP40
UL approval Yes • UL 508 Yes CULus Yes RCM (formerly C-TICK) Yes RCA (formerly C-TICK) Yes FCC Yes FCC Yes ENC Dust protection Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas * • ATEX Zone 2 Yes: Optional • ICECX Zone 2 Yes: Optional • ULus Class I Zone 2, Division 2 Yes: Optional • Cermanischer Ltoyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Dust protection Register of Shipping (RSS) Yes • Lodys Register of Shipping (RSS) Yes • Nippon Kaji Kyokai (Class NK) Yes • Ambient temperature during operation • O'C'2' °C as option • min. 0 °C'20 °C as option • min. 60 °C Relative humidity Tested according to IEC 60068-2-78, IEC 60088-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transpor	Standards, approvals, certificates	
• UL 508 Yes cULus Yes RCM (formerly C-TICK) Yes RCC Yes FCC Yes FCC Yes FCC Yes EMC CEL Data protection Protection against foreign bodies > 1 mm Use in hazardous areas • • ATEX Zone 2 Yes: Optional • CULus Class I Zone 2, Division 2 Yes: Optional • Cluss I Zone 2, Division 2 Yes: Optional • Cernamischer Loyd (GL) Yes • American Bureau of Shopping (ARS) Yes • Bureau Varias (BV) Yes • Otrans Register of Shipping (KRS) Yes • Ulyds Register of Shipping (KRS) Yes • Using Class IXZone Class IXZone Society (CCS) Yes Ambient temperature during operation • 0*C: -20 *C as option • inin. 0 *C: -20 *C as option • inin. 0 *C: -20 *C as option • inin. 0 *C • inin. -20 *C • inin. -20 *C • inax.	CE mark	Yes
cULus Yes RCM (formerly C-TICK) Yes KC approval Yes FCC Yes EMC CE, EN 6100-6-4:2007, EN 6100-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas • ATEX Zone 2 Yes; Optional • CECE Zone 2 Yes; Optional • CECE Zone 2 Yes; Optional • Certainscher Ludy (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Ventas (BV) Yes • Eler Ansek Vertias (DNV) Yes • Loyds Register of Shipping (LRS) Yes • Lioyds Register of Shipping (LRS) Yes • Loyds Register of Shipping (LRS) Yes • Lioyds Register of Shipping (LRS) Yes • Lioyds Re	UL approval	Yes
RCM (formerly C-TICK) Yes RC approval Yes FCC Yes EMC CCE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use In Prazardous areas * • ATEX Zone 2 Yes: Optional • OLLs Closs I Zone 2, Division 2 Yes: Optional • OLLs Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes: Optional • Ottac Closs I Zone 2, Division 2 Yes • Iureau Veritas (DNY) Yes • Eventse Classification Society (CCS) Yes • Iureau Veritas (DNY) Yes • Ottace Classification Society (CCS) Yes • Ottace Classification Society (CCS) Yes • Ottace Classification Society (CCS) Yes • Init. 0 °C C °C C		Yes
KC approval Yes FCC Yes EMC CE, EN 6100-6-4:2007, EN 6100-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas ************************************		Yes
FCC Yes EMC CE, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas * • ATEX Zone 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eTerm approval Yes • Charea Bureau Of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Norske Veritas (DNV) Yes • Norse Classification Society (CCS) Yes • Ambient conditions 0 °C; -20 °C as option • mint. 0 °C; -20 °C as option • mink. -20 °C • max. 60 °C Relative humidity Tested according to IEC 60068-2-80; Operation: 5 % to 85 % at 25 / 55 °C (no condensation), storage / transport: 5 % to 85 % at 25 / 55 °C (no condensation), storage / transport: 5 % to 85 % at 25 / 55 °C (no c	RCM (formerly C-TICK)	Yes
FCC Yes EMC CE, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas Yes; Optional • ATEX Zone 2 Yes; Optional • ECEx Zone 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eUlus Class I Zone 2, Division 2 Yes; Optional • eText approval Step optional • American Bureau of Shipping (ABS) Yes • Bureau Vertias (BV) Yes • Det Norske Vertias (DNV) Yes • Elocys Register of Shipping (LRS) Yes • Chinese Classification Society (CCS) Yes Ambient conditions O °C; -20 °C as option Ambient temperature during storage/transportation -0 °C • min. -20 °C • max. 60 °C Ambient temperature during storage/transportation -0 °C • max. 60 °C Relative humidity Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 25 / 55 °C (no condensation), storage / transport. 5 % to 85 % at 25 / 55 °C (no condensation), storage / transport. 5 % to 85 % at 25 / 55		Yes
Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas ************************************	FCC	Yes
Use in hazardous areas Ves; Optional • ATEX Zone 2 Yes; Optional • ECEx Zone 2, Division 2 Yes; Optional • Clus Class 1 Zone 2, Division 2 Yes; Optional • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Det Norske Verifas (DNV) Yes • Det Norske Verifas (DNV) Yes • Loydy Register of Shipping (RRS) Yes • Loydy Register of Shipping (RRS) Yes • Loydy Register of Shipping (RRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Othorske Verifas (DNV) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Ambient conditions Ambient conditions Ambient conditions 0 °C; -20 °C as option • min. -20 °C • min. -20 °C • max. 60 °C Relative humidity Tested according to IEC 60068-2-78, IEC 60068-2-30; Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 25 / 55 °C (no condensation), storage	EMC	CE, EN 61000-6-4:2007, EN 61000-6-2:2005
• ATEX Zone 2 Yes; Optional • IECEx Zone 2 Yes; Optional • oULus Class I Zone 2, Division 2 Yes; Optional Marine approval - • Germanischer Lloyd (OL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Korean Register of Shipping (IRS) Yes • Loyds Register of Shipping (IRS) Yes • Nippon Kajif Kyokai (Class NK) Yes • Nippon Kajif Kyokai (Class NK) Yes • Oric; -20 °C as option on • min. 0 °C; -20 °C as option • min. -20 °C • max. 60 °C Relative humidity Tested according to IEC 60068-2-30; Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport; 5 % to 85 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport; 5 % to 95 % at 25 / 55 °C (no condensation), storage / tran	Dust protection	Protection against foreign bodies > 1 mm
• IECEx Zone 2 Yes; Optional • cULus Class I Zone 2, Division 2 Yes; Optional Marine approval ************************************	Use in hazardous areas	
• IECEx Zone 2 Yes; Optional • cULus Class I Zone 2, Division 2 Yes; Optional Marine approval ************************************	ATEX Zone 2	Yes; Optional
• cULus Class I Zone 2, Division 2 Yes; Optional Marine approval - • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Norpon Kajit Kyokai (Class NK) Yes • Loyds Register of Shipping (LRS) Yes • Nippon Kajit Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient temperature during operation 0 °C (-20 °C as option • min. 0 °C (-20 °C as option • max. 60 °C Ambient temperature during storage/transportation - • min. -20 °C • max. 60 °C Relative humidity Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / tran	IECEx Zone 2	
Marine approval Ves Germanischer Lloyd (GL) Yes American Bureau of Shipping (ABS) Yes Bureau Veritas (BV) Yes Det Norske Veritas (DNV) Yes Det Norske Veritas (DNV) Yes Korean Register of Shipping (KRS) Yes Uloyds Register of Shipping (LRS) Yes Nippon Kalji Kyokai (Class NK) Yes Chinese Classification Society (CCS) Yes Ambient conditions 0 °C; -20 °C as option min. 60 °C Ambient temperature during operation 60 °C max. 60 °C Relative humidity -20 °C e Relative humidity 30 °C (no condensation), storage / transport: 5 % to 85 % at 35 °C (no condensation), storage / transport: 5 % to 85 % at 35 °C (no condensation), storage / transport: 5 % to 85 % at 36 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation) Vibration tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s* (1 g) Shock load during operation acc. to IEC 60068- -26: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s* (1 g) Shock load during operation Tested according to IEC 60068-2-6:: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 2	cULus Class I Zone 2, Division 2	
American Bureau of Shipping (ABS) Yes Bureau Veritas (BV) Yes Det Norske Veritas (DNV) Yes Chara Register of Shipping (KRS) Yes Loyds Register of Shipping (KRS) Yes Loyds Register of Shipping (LRS) Yes Chinese Classification Society (CCS) Yes Ambient conditions Ambient conditions Ambient temperature during operation or min. 0 °C; -20 °C as option max. 0 °C Ambient temperature during storage/transportation min. -20 °C or C max. 0 °C Relative humidity Tested according to IEC 60068-2-78. IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation) Vibrations Vibration resistance during operation acc. to IEC 60068- 2-6 Shock load during operation Tested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 ar/s' (1 g) Shock testing of Shock load during operation Tested according to IEC 60068-2-27: 150 m/s*, 11 ms Operating system Shock load during operation Yindows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, <u>32-bit / 64-bit</u> Additional info on operating system Yes; Optional	Marine approval	
• Bureau Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Korean Register of Shipping (KRS) Yes • Lloyds Register of Shipping (LRS) Yes • Nippon Kajit Kyoki (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient conditions 60 °C Ambient temperature during storage/transportation 0 °C ; -20 °C as option 60 °C • min. 60 °C • max. 60 °C Relative humidity -20 °C condensation), storage / transport.5 % to 85 % at 30 °C (no condensation), storage / transport.5 % to 85 % at 30 °C (no condensation), storage / transport.5 % to 85 % at 30 °C (no condensation), storage / transport.5 % to 95 % at 25 / 55 °C (no condensation), storage / transport.5 % to 95 % at 25 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % at 26 / 55 °C (no condensation), storage / transport.5 % to 95 % a	Germanischer Lloyd (GL)	Yes
• Det Norske Verfas (DNV)Yes• Korean Register of Shipping (KRS)Yes• Lloyds Register of Shipping (LRS)Yes• Nippon Kaiji Kyokai (Class NK)Yes• Ohnese Classification Society (CCS)YesAmbient temperature during operation0 °C; -20 °C as option• min.0 °C; -20 °C as option• max.60 °CAmbient temperature during storage/transportation-• max.60 °CRelative humidity-• Relative humidityTested according to IEC 60068-2-30; Operation: 5 % to 85 % at 30 °C (no condensation) storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)Vibrations-• Vibration resistance during operation acc. to IEC 60068-tested to DIN IEC 60068-2-6; 10 Hz to 58 Hz; 0.075 mm, 58 Hz to 200 Hz; 9.8 m/s² (1 g)Shock keeting-• Shock load during operationTested according to IEC 60068-2-4; 150 m/s², 11 msOperating systemYulnows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bitAdditional info on operating systemoptional; SIMATIC Industrial OSwithout operating systemYes; Optional	American Bureau of Shipping (ABS)	Yes
• Korean Register of Shipping (KRS) Yes • Lloyds Register of Shipping (LRS) Yes • Nippon Kajij Kyokal (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient conditions Ambient conditions 0 °C; -20 °C as option • min. 0 °C C Ambient temperature during storage/transportation -20 °C • max. 60 °C Relative humidity -20 °C • max. 60 °C Relative humidity Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 85 % at 25 / 55 °C (no condensation) Vibrations tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (1 g) Shock load during operation Tested according to IEC 60068-2-27: 150 m/s², 11 ms Operating system Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit Additional info on operating system Yes; Optional	Bureau Veritas (BV)	Yes
Lloyds Register of Shipping (LRS)YesNippon Kaiji Kyokai (Class NK)YesChinese Classification Society (CCS)YesAmbient conditionsAmbient temperature during operation0 °C; -20 °C as option• min.0 °C; -20 °C as option• max.60 °CAmbient temperature during storage/transportation-20 °C• min20 °C• max.60 °CRelative humidityTested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)Vibrationstested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (1 g)Shock testingTested according to IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s² (1 g)Shock load during operationTested according to IEC 60068-2-27: 150 m/s², 11 msOperating systemWindows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bitAdditional info on operating systemoptional: SIMATIC Industrial OSwithout operating systemoptional: SIMATIC Industrial OS	Det Norske Veritas (DNV)	Yes
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pre-installed operating system Windows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard 7 E/P, 32-bit / 64-bit Additional info on operating system optional: SIMATIC Industrial OS without operating system Yes; Optional	Shock load during operation	Tested according to IEC 60068-2-27: 150 m/s ² , 11 ms
Additional info on operating system optional: SIMATIC Industrial OS without operating system Yes; Optional	Operating systems	
without operating system Yes; Optional	pre-installed operating system	
	Additional info on operating system	optional: SIMATIC Industrial OS
pre-installed operating system	without operating system	Yes; Optional
	pre-installed operating system	

Windows 7	Yes; Ultimate 32 bit or 64 bit
• Windows 10	Yes; Windows 10 IoT Enterprise 2016 LTSB, 64bit, MUI
 Windows 10 Enterprise 	Yes; Windows 10 IoT Enterprise 2019 LTSC, 64 bit, MUI
Software	
SIMATIC Software	Optionally with pre-installed SIMATIC WinCC RT Advanced / Software Controller CPU 1500S software bundle
Dimensions	
Width	191 mm
Height	100 mm
Depth	60 mm

last modified:

6/25/2021 🖸