SIEMENS

Data sheet

6ES7647-8BD61-0CV1

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) with TPM; 8 GB with NVRAM Box: Basis without COM without operating system 240 GB SSD; Industrial Edge SINUMERIK; DIN rail mounting

	Sirvomerkik, Birvitai 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 PCIe (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 high frequency electromagnetic fields 4 : 0 for frequency electromagnetic fields	 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
radiation 4.3; 3 Wm for 2 - 27, Febz, 80% AM acc. to IEC 61000-4.3; 10 V for 10 kHz - 800 MHz - 000 EC 61000 -4.5, surge asymmetric - Interference immunity on signal cables -30m • Interference immunity on signal cables -30m 42 KW acc. to IEC 61000 -4.5, surge asymmetric - 28 W acc. to IEC 61000 -4.5, surge asymmetric - 28 W acc. to IEC 61000 -4.5, surge asymmetric - 10 KE - 1000 - 4.5, surge asymmetric - 28 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.5, surge asymmetric - 14 W acc. to IEC 61000 -4.4, CISPR 22 Class B, FCC Class A - 14 V acc. to IEC 61000 -4.4, CISPR 22 Class B, FCC Class A - 14 V acc. to IEC 61000 -4.4, CISPR 22 Class B, FCC Class A - 14 V acc. to IEC 61000 -4.4, CISPR 22 Class B, FCC Class A - 14 V acc. to IEC 61000 -4.4, CISPR 22 Class B, FCC Class A - 14 V acc. to IEC 61000 -4.4, CISPR 22 Class B, FCC Class A - 14 V acc. 10 V as - 14 V acc.	Interference immunity against high-frequency electromagne	tic fields
Interference immunity on supply cables # 2kV act, to IEC 61000-4.4, burst, 14 KV acc, to IEC 61000-4.5, surge asymmetric 2kV acc, to IEC 61000-4.5, surge asymmetric 2kV acc, to IEC 61000-4.5, surge asymmetric 2kV acc, to IEC 61000-4.5, surge asymmetric 3kV acc, to IEC 61000-4.5, SURG ACC 3kV acc, to IEC 61000-4.5, SURG		4-3; 3 V/m for 2 - 2.7 GHz, 80% AM acc. to IEC 61000-4-3; 10 V for 10
Interference immunity on signal cables >30m Interference immunity on signal cables >30m Interference immunity and signal cables >30m It kV acc to IEC 61000-4.5, surge asymmetric 100-4.4, burst, length > 3 m 11 kV acc to IEC 61000-4.5, surge asymmetric 100-4.4, burst, length > 3 m 100-4.4, burst, length > 4 m 100-4.4, burst,	Interference immunity to cable-borne interference	
• Interference Immunity on signal cables - 30m +2 kV acc, to IEC 61000-4-5, surge, length ~ 30 m • Interference Immunity on signal cables - 30m +1 kV acc, to IEC 61000-4-5, surge asymmetric • esymmetric interference +1 kV acc, to IEC 61000-4-5, surge asymmetric • esymmetric interference +1 kV acc, to IEC 61000-4-5, surge asymmetric • Interference immunity to magnetic fields 100 Arm, to IEC 61000-4-8. • Interference immunity to magnetic fields at 50 Hz 100 Arm, to IEC 61000-4-8. • Interference immunity to magnetic fields at 50 Hz EN 61000-6-4, CISPR 22 Class B, FCC Class A • Interference mission via line/AC current cables EN 61000-6-4, CISPR 22 Class B, FCC Class A • Partice and class of protection IP40 • Standards, approvals, certificates Yes • CE mark Yes U. Jos0 Yes • UL S00 Yes • UL S00 Yes • CE Carde Yes •	 Interference immunity on supply cables 	
 Interference immunity on signal cables < 30m 41 KV acc. to IEC 61000-44; burst; length < 3 m; 24 KV acc. to IEC 61000-44; burst; length < 3 m; 24 KV acc. to IEC 61000-45; surge symmetric asymmetric interference asymmetric interference asymmetric interference asymmetric interference interference immunity to magnetic fields at 60 Hz interference immunity to magnetic fields interference immunity to magnetic fields<td></td><td></td>		
Interference Interference Interference #2 XV acc. to IEC 61000-4.5, surge asymmetric Interference #1 KV acc. to IEC 61000-4.5, surge asymmetric Interference 100 Arm; to IEC 61000-4.5, CISPR 22 Class B, FCC Class A Obgree and class of protection IP40 Standards, approvals, certificates Ves CLL 508 Yes CUL 508 Yes CULus 608 Yes CUL 508 Yes COC CE, Ke 5000-A 42007, Ke 51000-A2005 <td></td> <td></td>		
	Interference immunity on signal cables < 30m	
• ± kV acc. to IEC 6 1000-4-5, surge symmetric Interference immunity to magnetic fields at 50 Hz • Interference immunity to magnetic fields at 50 Hz • Interference emission via lineA/C current cables • Interference emission via lineA/C current cables • Braisen of conducted and non-conducted interference • Interference emission via lineA/C current cables • Braisen of conducted and non-conducted interference • Interference emission via lineA/C current cables • CE mark. Yes • UL approval. Yes • UL 508 Yes • UL 508 Yes • CCC Yes • CMC Grapproval Yes • CMC Some 2 Yes EMC Yes • IntEX Zone 2 Yes (Optional • IntEX Zone 2 Yes (Optional • CEC Asone 2 Yes (Optional • Germanischer Lloyd (SL) Yes • Germanischer Lloyd (SL) Yes • Interference instrumant of Shipping (ASS) Yes • Germanischer Lloyd (SL) Yes • Marine approval Yes • Germanischer Lloyd (CL) </td <td>Interference immunity against voltage surge</td> <td></td>	Interference immunity against voltage surge	
Interference immunity to magnetic fields at 50 Hz Interference immunity to magnetic fields at 50 Hz Emission of conducted and non-conducted interference Interference emission via line/AC current cables EN 1000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Degree and class of protection IP degree of protection IP degree of protection Ves UL approval 0 U 508 Ves UL 508 Ves UL 508 Ves UL 508 Ves CULus FCC FCC ENC CC E, EN 6100-6-4:2007, EN 61000-6-2:2005 Dust protection Protection Protection against foreign bodies > 1 mm Use in hazardous areas • ATEX Zone 2 • UL Uses 2 • Conce 2 • CE, EN 6100-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas • ATEX Zone 2 • CE, EN 6100-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas • ATEX Zone 2 • CE, EN 6100-6-4:2007, EN 61000-6-2:2005 Dust protection • Conce 2 • CE, EN 6100-6-4:2007, EN 61000-6-2:2005 Dust protection • American Bureau of Shipping (ABS) • Social Status (DW) • Germanischer Ludy (CL) • American Bureau of Shipping (ABS) • Bureau Veritas (DW) • Conce Register of Shipping (RS) • Conces Classification Society (CCS) • Social Classification Society (CCS) • Ambient temperature during operation • Concester Classification Society (CCS) • Stock lead during operation acc. to IEC • Obration • Stock load during operation acc. to IEC • Obrate tening • Pre-instaled Operation gystem • Mindows T Utima	 asymmetric interference 	±2 kV acc. to IEC 61000-4-5, surge asymmetric
• 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 Dagne and class of protection EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Dagne and class of protection Ves IP degree of protection Yes 0L approvals, certificates Yes CE mark Yes UL approvals Yes oUL 508 Yes CLUs Yes RCM (formetry C-TICK) Yes FCC Yes FORC Yes FCC Yes FCC Yes FCC Yes FCC Yes FORC Yes FORC Yes FORC Yes FORC	symmetric interference	±1 kV acc. to IEC 61000-4-5, surge symmetric
Emission of conducted and non-conducted interference Interference emission via line/AC current cables De N 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A Degree and class of protection IP40 Standards, approvals, certificates Ves UL sproval Yes UL 508 Yes UL 508 Yes CEC Yes CLUS Yes RCM (formerly C-TICK) Yes KC approval Yes FCC Yes EMC CE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas Yes: Optional • ATEX Zone 2 Yes: Optional • CEX Zone 2 Yes: Optional • Clus Class I Zone 2, Division 2 Yes: Optional • Germainscher Lloyd (CL) Yes • Barceau veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Divids Register of Shipping (KRS) Yes • Loyds Register of Shipping (KRS) Yes • Loyds Register of Shipping (KRS) Yes • Ninpon Kaji Kyokai (Cl	Interference immunity to magnetic fields	
• 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 protocicon IP40 Standards, approvals, certificates Yes CE mark Yes UL approval Yes • UL 508 Yes • UL 508 Yes • UL 508 Yes • CULus Yes • CM (formerly C-TICK) Yes FCC Yes FCC Yes FCC CE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 nm Use in hazardous areas - • ATEX Zone 2 Yes; Optional • CE cas 1 Zone 2, Division 2 Yes; Optional • Clus Cas 1 Zone 2, Division 2 Yes; Optional • Mariccan Bureau of Shipping (ABS) Yes • Bureau Verias (PV) Yes • Bureau Verias (PV) Yes • Der Korsean Register of Shipping (KRS) Yes • Division Bi/ Kyokai (Class NK) Yes • Uoyds Register of Shipping (KRS) Yes <t< td=""><td> Interference immunity to magnetic fields at 50 Hz </td><td>100 A/m; to IEC 61000-4-8</td></t<>	 Interference immunity to magnetic fields at 50 Hz 	100 A/m; to IEC 61000-4-8
Degree and class of protection IP40 Standards, approvals, certificates Ves CE mark Yes UL approval Yes out 508 Yes cULus Yes cULus Yes cULus Yes cULus Yes cULus Yes cCACC Yes CCACC Yes CCACC Yes FCC Yes EMC Optication Protection Protection against foreign bodies > 1 mm Use in hazardous areas * • ATEX Zon 2 Yes; Optional • IECEX Zone 2 Yes; Optional • Cluss Class I Zone 2, Division 2 Yes • American Bureau of Shipping (ABS) Yes • Det Norske Veritas (DNV) Yes • Corenanischer Loyd (GL) Yes • Loyds Register of Shipping (KRS) Yes • Loyds Register of Shipping (KRS) Yes • Loyds Register of Shipping (KRS) Yes • Nippon Kaiji Kyokai (Class NK) <td>Emission of conducted and non-conducted interference</td> <td></td>	Emission of conducted and non-conducted interference	
IP degree of protection IP40 Standards, approvals, certificates CE mark Yes UL approval Yes • UL 050 Yes OUL 050 Yes RCM (formerly C-TICK) Yes RCM (formerly C-TICK) Yes RCM (formerly C-TICK) Yes RCM (formerly C-TICK) Yes FCC Yes EMC CE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas - • ATEX Zone 2 Yes; Optional • CLus ClassI Zone 2, Division 2 Yes; Optional • ClassI Zone 2, Division 2 Yes • Division 2, Division 2 Yes • ClassI Zone 2, Division 2 Yes • ClassI Zone 2, Division 2 Yes • ClassI Costa Zone 2, Division 2 Yes • Division 4, Key A, Sone 2, Division 2 Yes • Division Register of Shipping (KPS) Ye	 Interference emission via line/AC current cables 	EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A
Standards, approvals, certificates CE mark Yes UL approval Yes UL approval Yes UL US Yes CULUS Yes RCM (formerly C-TICK) Yes FCC Yes FCC CE. EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas * • ATEX Zone 2 Yes: Optional • CEC X2 and 2 Yes: Optional • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Bureau Veritas (DV) Yes • Det Norske Veritas (DNV) Yes • Chrinese Classification Society (CCS) Yes • Nippon Kaji Kyokal (Class NK) Yes • Nippon Kaji Kyokal (Class NK) Yes • Noblent temperature during operation 0 °C up to 60 °C (-20 °C as option) • Ambient temperature during operation 0 °C up to 60 °C (-20 °	Degree and class of protection	
CE mark Yes UL approval Yes • UL 508 Yes cULus Yes RCM (formerly C-TICK) Yes KC 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 hazardous areas • ATEX Zone 2 • ATEX Zone 2 Yes; Optional • CEC EX Zone 2 Yes; Optional • Commischer Loyd (GL) Yes • Commischer Loyd (GL) Yes • Commischer Loyd (GL) Yes • Bureau Veritas (DNV) Yes • Bureau Veritas (DNV) Yes • Elocks Classification Society (CCS) Yes • Loyds Register of Shipping (KRS) Yes • Loyds Register of Shipping (CRS) Yes • Loyds Register of Shipping (CRS) Yes • Loyds Register of Shipping (CRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient temperature during operation 0 "C up to 60 "C (-20 "C as option) Ambient temperature during operation 0 "C up to 60 "C (-20 "C as option) Ambient temperature during operation 0 "C to condensation), storage / transport: 5 % to 95 %		IP40
CE mark Yes UL approval Yes • UL 508 Yes cULus Yes RCM (formerly C-TICK) Yes KC 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 hazardous areas • ATEX Zone 2 • ATEX Zone 2 Yes; Optional • CEC EX Zone 2 Yes; Optional • Commischer Loyd (GL) Yes • Commischer Loyd (GL) Yes • Commischer Loyd (GL) Yes • Bureau Veritas (DNV) Yes • Bureau Veritas (DNV) Yes • Elocks Classification Society (CCS) Yes • Loyds Register of Shipping (KRS) Yes • Loyds Register of Shipping (CRS) Yes • Loyds Register of Shipping (CRS) Yes • Loyds Register of Shipping (CRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient temperature during operation 0 "C up to 60 "C (-20 "C as option) Ambient temperature during operation 0 "C up to 60 "C (-20 "C as option) Ambient temperature during operation 0 "C to condensation), storage / transport: 5 % to 95 %	Standards, approvals, certificates	
UL approval Yes • UL 508 Yes CULus Yes CRM (formerly C-TICK) Yes KC approval Yes FCC Yes FCC Yes EMC Cellus in the second seco		Yes
• UL 508 Yes cULus Yes RCM (formerly C-TICK) Yes RCG approval Yes FCC Yes FCC Yes EMC CEL, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas - • ATEX Zone 2 Yes; Optional • CLUus Class I Zone 2, Division 2 Yes; Optional • Clus Class I Zone 2, Division 2 Yes; Optional • Clus Class I Zone 2, Division 2 Yes; Optional • Clus Class I Zone 2, Division 2 Yes; Optional • Cermanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Loyds Register of Shipping (LRS) Yes • Loyds Register of Shipping (LRS) Yes • Nichon Kaili Kyokai (Class NK) Yes • Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) Ambient temperature during operation		
cULus Yes RCM (formerly C-TICK) Yes KC approval Yes FCC Yes EMC CE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas * • ATEX Zone 2 Yes; Optional • IECEx Zone 2 Yes; Optional • IECEx Zone 2, Division 2 Yes; Optional • CULus Class I Zone 2, Division 2 Yes; Optional • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Liodyds Register of Shipping (KRS) Yes • Liodyds Register of Shipping (KRS) Yes • Liodyds Register of Shipping (KRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Liodyds Register of Shipping (KRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Ambient temperature during operation 0*C up to 60 *C (-20 *C as option) Ambient temperature during operation 0*C up to 60 *C (-20 *C as option) Ambient temperature during operation 0*C up to 60 *C (-20 *C as option) Ambient temperature during operation		
RCM (formerly C-TICK) Yes KC approval Yes FCC Yes FCC Yes EMC CE, EN 61000-6-4:2005, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas • ATEX Zone 2 • ATEX Zone 2 Yes; Optional • CECk Zone 2 Yes; Optional • Cluss I Zone 2, Division 2 Yes; Optional • Cluss I Zone 2, Division 2 Yes; Optional • Cerranischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Det Norske Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Loyds Register of Shipping (KRS) Yes • Loyds Register of Shipping (KRS) Yes • Nippon Kalij Kyokal (Class NK) Yes • Nippon Kalij Kokal (Class NK) Yes • Nabient conditions Ambient temperature during operation • Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) • Ambient temperature during operation 0 °C up to 60 °C (-20 °C concondensation) • min. -20 °C • max. 60 °C • Relative humidity Tested according to IEC 60068-2-78. IEC 60068-2-30: Operation: 5 % to 58 % at 20 °C (no condensation), storage / transport: 5 % to 58 % at 20 °C (no		
KC approval Yes FCC Yes EMC CE, EN 61000-6.4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas - • ATEX Zone 2 Yes; Optional • ATEX Zone 2, Division 2 Yes; Optional • 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 • Licyds Register of Shipping (KRS) Yes • Lioyds Register of Shipping (KRS) Yes • Nippon Kaji Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes • Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) • Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) • Ambient temperature during operation -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 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 condensation), storage / transport.5 % to 95 % at 25 / 55 °C (no condensation), storage / transport.5 % to 95 % at 25 / 55 / 55 °C (no condensati		
FCC Yes EMC CE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas * • ATEX Zone 2 Yes; Optional • LICEx Zone 2 Yes; Optional • cULus Class I Zone 2, Division 2 Yes; Optional • cULus Class I Zone 2, Division 2 Yes; Optional • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Loyds Register of Shipping (LRS) Yes • Loyds Register of Shipping (LRS) Yes • Nippon Kajii Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient conditions 0 °C up to 60 °C (-20 °C as option) Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) • min. -20 °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 °C (no condensation), storage / transport. 5 % to 85 %		
EMC CE, EN 61000-6-4:2007, EN 61000-6-2:2005 Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas • ATEX Zone 2 • ATEX Zone 2 Yes; Optional • IECEx Zone 2, Division 2 Yes; Optional • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (DV) Yes • Det Norske Veritas (DV) Yes • Lloyds Register of Shipping (LRS) Yes • Lloyds Register of Shipping (LRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient temperature during operation • Cu to 60 °C (-20 °C as option) • Ambient temperature during storage/transportation • Cu to 60 °C (-20 °C as option) • min. -20 °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) • Wibration resistance during operation acc. to IEC 60 °C • Maker testing • Shock lead during operation acc. to IEC • Vibration resistance during operation acc. to IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 H		
Dust protection Protection against foreign bodies > 1 mm Use in hazardous areas		
Use in hazardous areas Yes; Optional • ATEX Zone 2 Yes; Optional • IECEx Zone 2 Yes; Optional • oULus Class I Zone 2, Division 2 Yes; Optional • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Det Norske Veritas (DNV) Yes • Det Norske Veritas (DNV) Yes • Loyds Register of Shipping (LRS) Yes • Uoyds Register of Shipping (LRS) Yes • Chinese Classification Society (CCS) Yes • Ambient temperature during operation 0 *C up to 60 °C (-20 °C as option) • Ambient temperature during operation 0 *C up to 60 °C (-20 °C as option) • Ambient temperature during storage/transportation • *C up to 60 °C (-20 °C as option) • 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 95 % at 25 / 55 °C (no condensation) • Vibration resistance during operation acc. 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 testing Tested according to IEC 60068-2-27: 150 m/s³, 11 ms Operating systems Vindows 7 Ultimate 32-bit / 64-bit, MUI; Windows Embedded Standard		
• ATEX Zone 2 Yes; Optional • IECEx Zone 2 Yes; Optional • cULus Class I Zone 2, Division 2 Yes; Optional Marine approval • Germanischer Lloyd (GL) Yes • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Det Norske Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Korean Register of Shipping (LRS) Yes • Lloyds Register of Shipping (LRS) Yes • Nippon Kaij Kyokai (Class NK) Yes • Nippon Kaij Kyokai (CCS) Yes • Ambient conditions Yes Ambient temperature during operation 0 "C up to 60 "C (-20 "C as option) • Ambient temperature during storage/transportation -20 "C • max. 60 "C • Relative humidity Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 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) 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 lead during operation Tested according to IEC 60068-2-27: 150 m/s², 11 ms<		
• IECEx Zone 2 Yes; Optional • ULUs 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 • Loyds Register of Shipping (KRS) Yes • Lioyds Register of Shipping (LRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes • Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) Ambient temperature during storage/transportation -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 95 % at 25 / 55 °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: 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 <td></td> <td>Yes: Ontional</td>		Yes: Ontional
• 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 • Korean Register of Shipping (KRS) Yes • Loyds Register of Shipping (LRS) Yes • Nippon Kaiji Kyokai (Class NK) Yes • Chinese Classification Society (CCS) Yes Ambient conditions - Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) Ambient temperature during storage/transportation -20 °C • max. 60 °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 95 % at 25 / 55 °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/s² (1 g) Shock load during operation Tested according to IEC 60068-2-27: 150 m/s², 11 ms Operating systems Tested according to IEC 60068-2-27: 150 m/s², 11 ms		
Marine approval • Germanischer Lloyd (GL) Yes • American Bureau of Shipping (ABS) Yes • Bureau Veritas (BV) Yes • Det Norske Veritas (DNV) Yes • Chorske Veritas (IDNV) Yes • Korean Register of Shipping (KRS) Yes • Lloyds Register of Shipping (LRS) Yes • Lloyds Register of Shipping (LRS) Yes • Chinese Classification Society (CCS) Yes Ambient conditions Ambient temperature during operation • Ambient temperature during operation 0 °C up to 60 °C (-20 °C as option) Ambient temperature during operation -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 95 % at 25 °C (no condensation), storage / transport: 5 % to 95 % at 25 °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 testing • 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 m/s² (1 g) Shock testing • Shock load during operation Tested according to IEC 60068-2-7: 150 m/s², 11 ms Operating systems		
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	Operating systems	
	pre-installed operating system	

Additional info on operating system	optional: SIMATIC Industrial OS
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
loot modified.	

6/25/2021 🖸