

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 E3845 ET (4C/4T) with TPM; 4 GB ET with NVRAM Box: Basis without COM without operating system 60 GB SSD ET; without SIMATIC software DIN rail 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                                                                                                                                                                  |                                                                                          |
| <ul style="list-style-type: none"> <li>Mains/voltage failure stored energy time</li> </ul>                                                                                       | 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                                                                                                                                                                            |                                                                                          |
| <ul style="list-style-type: none"> <li>free slots</li> <li>Number of PCI slots</li> <li>Number of compact flash slots</li> </ul>                                                 | 1x PCIe (x1) (optional)<br>1; Optional<br>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                                                                                                                                                                 |                                                                                          |
| <ul style="list-style-type: none"> <li>Graphics interface</li> </ul>                                                                                                             | 1x DisplayPort                                                                           |
| Industrial Ethernet                                                                                                                                                              |                                                                                          |
| <ul style="list-style-type: none"> <li>Industrial Ethernet interface               <ul style="list-style-type: none"> <li>— 100 Mbps</li> <li>— 1000 Mbps</li> </ul> </li> </ul> | 2x Ethernet (RJ45)<br>Yes<br>Yes                                                         |
| Integrated Functions                                                                                                                                                             |                                                                                          |
| Monitoring functions                                                                                                                                                             |                                                                                          |
| <ul style="list-style-type: none"> <li>Temperature monitoring</li> <li>Watchdog</li> <li>Status LEDs</li> <li>Fan</li> <li>Monitoring function via network</li> </ul>            | Yes<br>Yes<br>1x power, 3x user<br>No<br>Optional                                        |
| EMC                                                                                                                                                                              |                                                                                          |
| Interference immunity against discharge of static electricity                                                                                                                    |                                                                                          |
| <ul style="list-style-type: none"> <li>Interference immunity against discharge of static electricity</li> </ul>                                                                  | ±6 kV contact discharge acc. to IEC 61000-4-2; ±8 kV air discharge acc. to IEC 61000-4-2 |
| Interference immunity against high-frequency electromagnetic fields                                                                                                              |                                                                                          |

|                                                                                                               |                                                                                                                                                                                      |
|---------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>Interference immunity against high frequency radiation</li> </ul>      | 10 V/m 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 |
| <b>Interference immunity to cable-borne interference</b>                                                      |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Interference immunity on supply cables</li> </ul>                      | ±2 kV acc. to IEC 61000-4-4, burst; ±1 kV acc. to IEC 61000-4-5, surge symmetric; ±2 kV acc. to IEC 61000-4-5, surge asymmetric                                                      |
| <ul style="list-style-type: none"> <li>Interference immunity on signal cables &gt;30m</li> </ul>              | ±2 kV acc. to IEC 61000-4-5, surge, length > 30 m                                                                                                                                    |
| <ul style="list-style-type: none"> <li>Interference immunity on signal cables &lt; 30m</li> </ul>             | ±1 kV acc. to IEC 61000-4-4; burst; length < 3 m; ±2 kV acc. to IEC 61000-4-4; burst; length > 3 m                                                                                   |
| <b>Interference immunity against voltage surge</b>                                                            |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>asymmetric interference</li> </ul>                                     | ±2 kV acc. to IEC 61000-4-5, surge asymmetric                                                                                                                                        |
| <ul style="list-style-type: none"> <li>symmetric interference</li> </ul>                                      | ±1 kV acc. to IEC 61000-4-5, surge symmetric                                                                                                                                         |
| <b>Interference immunity to magnetic fields</b>                                                               |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Interference immunity to magnetic fields at 50 Hz</li> </ul>           | 100 A/m; to IEC 61000-4-8                                                                                                                                                            |
| <b>Emission of conducted and non-conducted interference</b>                                                   |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Interference emission via line/AC current cables</li> </ul>            | EN 61000-6-3, EN 61000-6-4, CISPR 22 Class B, FCC Class A                                                                                                                            |
| <b>Degree and class of protection</b>                                                                         |                                                                                                                                                                                      |
| IP degree of protection                                                                                       | IP40                                                                                                                                                                                 |
| <b>Standards, approvals, certificates</b>                                                                     |                                                                                                                                                                                      |
| CE mark                                                                                                       | Yes                                                                                                                                                                                  |
| UL approval                                                                                                   | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>UL 508</li> </ul>                                                      | Yes                                                                                                                                                                                  |
| cULus                                                                                                         | Yes                                                                                                                                                                                  |
| RCM (formerly C-TICK)                                                                                         | Yes                                                                                                                                                                                  |
| KC approval                                                                                                   | Yes                                                                                                                                                                                  |
| FCC                                                                                                           | Yes                                                                                                                                                                                  |
| EMC                                                                                                           | CE, EN 61000-6-4:2007, EN 61000-6-2:2005                                                                                                                                             |
| Dust protection                                                                                               | Protection against foreign bodies > 1 mm                                                                                                                                             |
| <b>Use in hazardous areas</b>                                                                                 |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>ATEX Zone 2</li> </ul>                                                 | Yes; Optional                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>IECEx Zone 2</li> </ul>                                                | Yes; Optional                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>cULus Class I Zone 2, Division 2</li> </ul>                            | Yes; Optional                                                                                                                                                                        |
| <b>Marine approval</b>                                                                                        |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Germanischer Lloyd (GL)</li> </ul>                                     | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>American Bureau of Shipping (ABS)</li> </ul>                           | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Bureau Veritas (BV)</li> </ul>                                         | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Det Norske Veritas (DNV)</li> </ul>                                    | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Korean Register of Shipping (KRS)</li> </ul>                           | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Lloyds Register of Shipping (LRS)</li> </ul>                           | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Nippon Kaiji Kyokai (Class NK)</li> </ul>                              | Yes                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>Chinese Classification Society (CCS)</li> </ul>                        | Yes                                                                                                                                                                                  |
| <b>Ambient conditions</b>                                                                                     |                                                                                                                                                                                      |
| <b>Ambient temperature during operation</b>                                                                   |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>min.</li> </ul>                                                        | 0 °C; -20 °C as option                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>max.</li> </ul>                                                        | 60 °C                                                                                                                                                                                |
| <b>Ambient temperature during storage/transportation</b>                                                      |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>min.</li> </ul>                                                        | -20 °C                                                                                                                                                                               |
| <ul style="list-style-type: none"> <li>max.</li> </ul>                                                        | 60 °C                                                                                                                                                                                |
| <b>Relative humidity</b>                                                                                      |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Relative humidity</li> </ul>                                           | Tested according to IEC 60068-2-78, IEC 60068-2-30: Operation: 5 % to 85 % at 30 °C (no condensation), storage / transport: 5 % to 95 % at 25 / 55 °C (no condensation)              |
| <b>Vibrations</b>                                                                                             |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul> | tested to DIN IEC 60068-2-6: 10 Hz to 58 Hz: 0.075 mm, 58 Hz to 200 Hz: 9.8 m/s <sup>2</sup> (1 g)                                                                                   |
| <b>Shock testing</b>                                                                                          |                                                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>Shock load during operation</li> </ul>                                 | Tested according to IEC 60068-2-27: 150 m/s <sup>2</sup> , 11 ms                                                                                                                     |
| <b>Operating systems</b>                                                                                      |                                                                                                                                                                                      |
| 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                                                                                                                                                                        |
| pre-installed operating system                                                                                |                                                                                                                                                                                      |

- Windows 7
- Windows 10
- Windows 10 Enterprise

Yes; Ultimate 32 bit or 64 bit  
 Yes; Windows 10 IoT Enterprise 2016 LTSC, 64bit, MUI  
 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:** 12/21/2020 