

Embedded/PC-based Automation

PC-based Control

SIMATIC WinAC RTX

Overview



- SIMATIC WINAC RTX: Optimized for applications that require a high degree of flexibility and integration capability.
- The software solution for tasks that require hard deterministic behavior and high performance.
- With real-time expansion for assuring deterministic behavior for the control section.

New with WinAC RTX 2009:

- Hardware support for the new Embedded PC platforms SIMATIC IPC427C and SIMATIC HMI IPC477C for PROFINET and retentivity

Technical specifications

| 6ES7 671-0RC07-0YA0 | |
|---------------------------------|--|
| Product type designation | SIMATIC WinAC RTX 2009 |
| Product version | |
| Hardware product version | - |
| Firmware version | 4.5 |
| associated programming package | STEP7 V5.4 SP4 or higher + HW update / iMap V3.0 SP1 |
| Memory | |
| Work memory | |
| • integrated (for program) | 4 Mbyte; Adjustable; depends on Non Paged Memory Pool |
| • integrated (for data) | 4 Mbyte; Adjustable; depends on Non Paged Memory Pool |
| Load memory | |
| • integrated RAM, max. | Adjustable; depends on Non Paged Memory Pool |
| CPU/ blocks | |
| DB | |
| • Number, max. | 65 535; Limited only by RAM set for data |
| • Size, max. | 64 Kibyte |
| FB | |
| • Number, max. | 65 536; Limited only by RAM set for code |
| • Size, max. | 64 Kibyte |

| 6ES7 671-0RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX 2009 |
| FC | |
| • Number, max. | 65 536; Limited only by RAM set for code |
| • Size, max. | 64 Kibyte |
| OB | |
| • Number, max. | Limited only by RAM set for code |
| • Size, max. | 64 Kibyte |
| • Number of free cycle OBs | 1; OB 1 |
| • Number of time alarm OBs | 1; OB 10 |
| • Number of delay alarm OBs | 1; OB 20 |
| • Number of watchdog interrupts | 9; OB 30-38 |
| • Number of process alarm OBs | 1; OB 40 |
| • Number of ODK OBs | 3; OB 52-54 |
| • Number of DPV1 alarm OBs | 3; OB 55-57 |
| • Number of isochronous mode OBs | 2; OB 61-62 |
| • Number of startup OBs | 2; OB 100, 102 |
| • Number of asynchronous error OBs | 7; OB 80, 82-85, 86, 88 |
| • Number of synchronous error OBs | 2; OB 121, 122 |
| Nesting depth | |
| • per priority class | 24 |
| • additional within an error OB | 24 |
| CPU/ processing times | |
| for bit operations, min. | 0.004 µs; typ. |
| for fixed point arithmetic, min. | 0.003 µs; typ. |
| for floating point arithmetic, min. | 0.004 µs; typ. |
| Reference platform | Pentium IV, 2.4 GHz |
| Times/counters and their retentivity | |
| S7 counter | |
| • Number | 2 048 |
| • Retentivity | |
| - can be set | Yes |
| - lower limit | 0 |
| - upper limit | 2 047 |
| - preset | 8 |
| • Counting range | |
| - can be set | Yes |
| - lower limit | 0 |
| - upper limit | 999 |
| IEC counter | |
| • present | Yes |
| • Type | SFB |
| S7 times | |
| • Number | 2 048 |
| • Retentivity | |
| - can be set | Yes |
| - lower limit | 0 |
| - upper limit | 2 047 |
| - preset | 0 |
| • Time range | |
| - lower limit | 10 ms |
| - upper limit | 9 990 s |

Technical specifications (continued)

| 6ES7 671-0RC07-0YA0 | |
|--|---|
| Product type designation | SIMATIC WinAC RTX 2009 |
| IEC timer | |
| • present | Yes |
| • Type | SFB |
| Data areas and their retentivity | |
| Retentivity without UPS and PS Extension Board | 128 KB with SIMATIC IPC427C and HMI IPC477C; further SIMATIC PCs on request |
| Retentivity with UPS | all data |
| Flag | |
| • Number, max. | 16 Kibyte |
| • of which retentive | MB 0 to MB 16383 |
| • Retentivity preset | MB 0 to MB 15 |
| • Number of clock memories | 8 |
| Local data | |
| • adjustable, max. | 32 Kibyte |
| • preset | 16 Kibyte |
| • per priority class, max. | 32 Kibyte |
| Address area | |
| I/O address area | |
| • overall | 16 Kibyte |
| • Outputs | 16 Kibyte |
| • of which, distributed | |
| - DP interface, inputs | 16 Kibyte |
| - DP interface, outputs | 16 Kibyte |
| - PN interface, inputs | 16 Kibyte |
| - PN interface, outputs | 16 Kibyte |
| Process image | |
| • Inputs, adjustable | 8 Kibyte |
| • Outputs, adjustable | 8 Kibyte |
| • Inputs, default | 512 byte |
| • Outputs, default | 512 byte |
| Subprocess images | |
| • Number of subprocess images, max. | 15 |
| Digital channels | |
| • Inputs | 128 000 |
| • Outputs | 128 000 |
| Analog channels | |
| • Inputs | 8 000 |
| • Outputs | 8 000 |
| Hardware configuration | |
| Submodules | |
| • Number of submodules, max | 4 |
| • of which PROFIBUS, max. | 4; Supported interfaces: see 1st and 2nd interface |
| • of which Industrial Ethernet, max. | 1; Supported interfaces: see 3rd and 4th interface |
| Number of operable FMs and CPs (recommended) | |
| • FM | FM distributed: FM 350-1 / 350-2, FM 351, FM 352, FM 353, FM 355 / 355-2 |
| • CP, point-to-point | 2; CP 340, CP 341 distributed |

| 6ES7 671-0RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX 2009 |
| Number of operable FMs and CPs (recommended) | |
| • CP, LAN | Over PC CP |
| Time of day | |
| Clock | |
| • Hardware clock (real-time clock) | Yes |
| • battery-backed and synchronizable | Yes |
| Runtime meter | |
| • Number | 8 |
| Clock synchronization | |
| • supported | Yes |
| • to PC-CP, slave | Yes |
| • on Ethernet via NTP | Yes |
| S7 message functions | |
| Number of login stations for message functions, max. | 62 |
| SCAN procedure | No |
| Process diagnostic messages | Yes; ALARM_S, ALARM_SQ, ALARM_D, ALARM_DQ |
| simultaneously active Alarm-S blocks, max. | 20; of a total of 20 for all SFCs |
| Alarm 8-blocks | Yes |
| • Number of instances for alarm 8 and S7 communication blocks, max. | 600 |
| Process control messages | No |
| Test commissioning functions | |
| Status/control | |
| • Status/control variable | Yes |
| Forcing | |
| • Forcing | No |
| Status block | Yes |
| Single step | Yes |
| Diagnostic buffer | |
| • present | Yes |
| • Number of entries, max. preset | 3 200 120 |
| Communication functions | |
| PG/OP communication | Yes |
| Data record routing | No |
| Global data communication | |
| • supported | No |
| S7 basic communication | |
| • supported | No |
| S7 communication | |
| • supported | Yes |
| • as server | Yes |
| • as client | Yes |
| • User data per job, max. | 64 Kibyte; Depends on which block is used: BSEND/USEND or PUT/GET |

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PC-based Control

SIMATIC WinAC RTX

Technical specifications (continued)

| 6ES7 671-0RC07-0YA0 | |
|--|------------------------|
| Product type designation | SIMATIC WinAC RTX 2009 |
| Web server | |
| • Web server | No |
| Open IE communication | |
| • TCP/IP | Yes |
| - Number of connections, max. | Dependent on interface |
| - Data length, max. | 65 534 byte |
| • ISO-on-TCP (RFC1006) | No |
| • UDP | Yes |
| - Number of connections, max. | Dependent on interface |
| - Data length, max. | 1 472 byte |
| Number of connections | |
| • overall | 64 |
| • usable for PG communication | |
| - reserved for PG communication | 1 |
| • usable for OP communication | |
| - reserved for OP communication | 1 |
| PROFINET CBA (at set setpoint communication load) | |
| • Setpoint for the CPU communication load | 20 % |
| • Number of remote interconnection partners | 64 |
| • Number of functions, master/slave | 30 |
| • Total of all Master/Slave connections | 1 000 |
| • Data length of all incoming connections master/slave, max. | 6 800 byte |
| • Data length of all outgoing connections master/slave, max. | 6 800 byte |
| • Number of device-internal and PROFIBUS interconnections | 500 |
| • Data length of device-internal and PROFIBUS interconnections, max. | 4 000 byte |
| • Data length per connection, max. | 1 400 byte |
| • Remote interconnections with acyclic transmission | |
| - Sampling frequency: Sampling time, min. | 500 ms |
| - Number of incoming interconnections | 100 |
| - Number of outgoing interconnections | 100 |
| - Data length of all incoming interconnections, max. | 2 000 byte |
| - Data length of all outgoing interconnections, max. | 2 000 byte |
| - Data length per connection, max. | 1 400 byte |
| • Remote interconnections with cyclic transmission | |
| - Transmission frequency: Transmission interval, min. | 10 ms |
| - Number of incoming interconnections | 200 |
| - Number of outgoing interconnections | 200 |

| 6ES7 671-0RC07-0YA0 | |
|--|--|
| Product type designation | SIMATIC WinAC RTX 2009 |
| PROFINET CBA (at set setpoint communication load) | |
| • Remote interconnections with cyclic transmission | |
| - Data length of all incoming interconnections, max. | 4 800 byte |
| - Data length of all outgoing interconnections, max. | 4 800 byte |
| - Data length per connection, max. | 250 byte |
| • HMI variables via PROFINET (acyclic) | |
| - Number of stations that can log on for HMI variables (PN OPC/iMap) | 3 |
| - HMI variable updating | 500 ms |
| - Number of HMI variables | 200 |
| - Data length of all HMI variables, max. | 2 000 byte |
| • PROFIBUS proxy functionality | |
| - supported | Yes |
| - Number of linked PROFIBUS devices | 16 |
| - Data length per connection, max. | 240 byte; Slave-dependent |
| 1st interface | |
| Type of interface | CP 5611-A2, CP 5621, integrated PB interface of the SIMATIC PC |
| Max. no. of simultaneously operable CPs | 1 |
| Physics | RS 485 / PROFIBUS |
| Isolated | Yes |
| Power supply to interface (15 to 30 V DC), max. | does not exist |
| Functionality | |
| • MPI | No |
| • DP master | Yes |
| • DP slave | No |
| DP master | |
| • Number of connections, max. | 8 |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes |
| - Global data communication | No |
| - S7 basic communication | No |
| - S7 communication | Yes |
| - Equidistance mode support | Yes; Only in conjunction with isochronous mode |
| - Isochronous mode | Yes |
| - SYNC/FREEZE | Yes |
| - Activation/deactivation of DP slaves | Yes |
| - Direct data exchange (slave-to-slave communication) | Yes |
| - DPV0 | Yes |
| - DPV1 | Yes |
| • Transmission speeds, max. | 12 Mbit/s |
| • Number of DP slaves, max. | 64 |

Technical specifications (continued)

| 6ES7 671-0RC07-0YA0 | |
|---|--|
| Product type designation | SIMATIC WinAC RTX 2009 |
| DP master | |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per DP slave | |
| - Inputs, max. | 244 byte |
| - Outputs, max. | 244 byte |
| 2nd interface | |
| Type of interface | CP 5613, CP 5613-A2, CP 5603 |
| Max. no. of simultaneously operable CPs | 4 |
| Physics | RS 485 / PROFIBUS |
| Isolated | Yes |
| Functionality | |
| • MPI | No |
| • DP master | Yes |
| • DP slave | No |
| DP master | |
| • Number of connections, max. | 50 |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes |
| - Global data communication | No |
| - S7 basic communication | No |
| - S7 communication | Yes |
| - Equidistance mode support | Yes; Only in conjunction with isochronous mode |
| - Isochronous mode | Yes |
| - SYNC/FREEZE | Yes |
| - Activation/deactivation of DP slaves | Yes |
| - Direct data exchange (slave-to-slave communication) | Yes |
| - DPV0 | Yes |
| - DPV1 | Yes |
| • Transmission speeds, max. | 12 Mbit/s |
| • Number of DP slaves, max. | 125 |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per DP slave | |
| - Inputs, max. | 244 byte |
| - Outputs, max. | 244 byte |
| 3rd interface | |
| Type of interface | PROFINET |
| Max. no. of simultaneously operable CPs | 1; Intel Pro/1000 (Intel 82571EB, 82573L, 82574L, 82541PI; non shared IRQ required); integrated IE interface SIMATIC PC 4x7B, 6x7B, 8x7B and IPC4x7C |
| Physics | Ethernet |
| Isolated | Yes |
| automatic detection of transmission speed | Yes; 10/100 Mbit/s |

| 6ES7 671-0RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX 2009 |
| Functionality | |
| • PROFINET IO Controller | Yes |
| • PROFINET IO Device | No |
| • PROFINET CBA | Yes |
| • Open IE communication | Yes |
| • Web server | No |
| PROFINET IO Controller | |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes; S7 routing |
| - S7 communication | Yes |
| - Open IE communication | Yes |
| • Transmission speeds, min. | 100 Mbit/s |
| • Transmission rate, max. | 100 Mbit/s |
| • Total number of connectable IO Devices, max. | 128 |
| • IRT, supported | No |
| • Prioritized startup supported | Yes |
| - Number of IO Devices, max. | 32 |
| • Activation/deactivation of IO Devices | Yes |
| - Number of IO Devices that can be simultaneously activated/deactivated, max. | 8 |
| • IO Devices changing during operation (partner ports), supported | Yes |
| • Device replacement without swap medium | Yes |
| • Send clock times | 1 ms |
| • Updating time | 1 - 512 ms (minimum value depends on communication share set for PROFINET I/O, on the number of I/O devices, and on the volume of configured user data) |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per address area, max. | 2 kbyte |
| - User data consistency, max. | 256 byte |
| SIMATIC communication | |
| • PG/OP communication | Yes |
| • S7 routing | Yes |
| • S7 communication | Yes |
| • Number of connections, max. | 16 |
| Open IE communication | |
| • Open IE communication, supported | Yes |
| • Number of connections, max. | 32 |
| • Local port numbers used at the system end | 0, 20, 21, 23, 25, 80, 102, 135, 161, 8 080, 34 962, 34 963, 34 964, 65 532, 65 533, 65 534, 65 535 |

Embedded/PC-based Automation

PC-based Control

SIMATIC WinAC RTX

Technical specifications (continued)

| 6ES7 671-0RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX 2009 |
| 4th interface | |
| Type of interface | PROFINET |
| Max. no. of simultaneously operable CPs | CP 1616 (HW release 8 or above), CP 1604 (HW release 7 or higher), integrated PN interface of SIMATIC PC and S7-mEC |
| Physics | Ethernet |
| Isolated | Yes |
| automatic detection of transmission speed | Yes; 10/100 Mbit/s |
| Functionality | |
| • PROFINET IO Controller | Yes |
| • PROFINET CBA | Yes |
| • Open IE communication | Yes |
| • Web server | No |
| PROFINET IO Controller | |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes; S7 routing |
| - S7 communication | Yes |
| - Open IE communication | Yes |
| • Transmission rate, min. | 100 Mbit/s |
| • Transmission rate, max. | 100 Mbit/s |
| • Total number of connectable IO Devices, max. | 256 |
| • Number of IO Devices with IRT and the option "high flexibility", max. | 64 |
| - of which in line, max. | 32 |
| • IRT, supported | Yes |
| • Prioritized startup supported | Yes |
| - Number of IO Devices, max. | 32 |
| • Activation/deactivation of IO Devices | Yes |
| - Number of IO Devices that can be simultaneously activated/deactivated, max. | 8 |
| • IO Devices changing during operation (partner ports), supported | Yes |
| • Device replacement without swap medium | Yes |
| • Send clock times | 250 µs, 500 µs, 1 ms |
| • Updating time | 0.25...512 depending on the send cycle |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per address area, max. | 2 kbyte |
| - User data consistency, max. | 256 byte |

| 6ES7 671-0RC07-0YA0 | |
|--|--|
| Product type designation | SIMATIC WinAC RTX 2009 |
| SIMATIC communication | |
| • PG/OP communication | Yes |
| • S7 routing | Yes |
| • S7 communication | Yes |
| • Number of connections, max. | 32 |
| Open IE communication | |
| • Open IE communication, supported | Yes |
| • Number of connections, max. | 32 |
| • Local port numbers used at the system end | 0, 20, 21, 25, 80, 102, 135, 161, 34 962, 34 963, 34 964, 65 532, 65 533, 65 534, 65 535 |
| Isochronous mode | |
| Isochronous mode | Yes; only PROFIBUS |
| Number of DP masters with isochronous mode | 2 |
| User data per isochronous slave, max. | 128 byte |
| equidistance | Yes |
| shortest clock pulse | 2.2 ms; 2.2 ms without partial process image; 2.2 ms with partial process image |
| CPU/ programming | |
| Programming language | |
| • STEP 7 | Yes; V5.4, SP4 or higher, Engineering Tools (optional) |
| • LAD | Yes |
| • FBD | Yes |
| • STL | Yes |
| • SCL | Yes |
| • CFC | Yes |
| • GRAPH | Yes |
| • HiGraph® | Yes |
| Nesting levels | 8 |
| User program protection/ password protection | Yes |
| Software libraries | |
| • Easy Motion Control | Yes |
| • Software redundancy | Yes; from V1.2, operation of WinAC RTX with WinAC RTX only |
| Open Development interfaces | |
| • CCX (Custom Code Extension) | Yes; WinAC ODK V4.2 or higher |
| • SMX (Shared Memory Extension) | Yes; WinAC ODK V4.2 or higher |
| - Inputs | 4 Kibyte |
| - Outputs | 4 Kibyte |
| • CMI (Controller Management Interface) | Yes; WinAC ODK V4.2 or higher |

Technical specifications (continued)

| 6ES7 671-0RC07-0YA0 | |
|--|--|
| Product type designation | SIMATIC WinAC RTX 2009 |
| Number of simultaneously active SFCs | |
| • DPSYC_FR | 20; of a total of 20 for all SFCs |
| • D_ACT_DP | 20; of a total of 20 for all SFCs |
| • RD_REC | 20; of a total of 20 for all SFCs |
| • WR_REC | 20; of a total of 20 for all SFCs |
| • WR_PARM | 20; of a total of 20 for all SFCs |
| • PARM_MOD | 20; of a total of 20 for all SFCs |
| • WR_DPARM | 20; of a total of 20 for all SFCs |
| • DPNRM_DG | 20; of a total of 20 for all SFCs |
| • RDSYSST | 20; of a total of 20 for all SFCs |
| Number of simultaneously active SFBs | |
| • RD_REC | 20; of a total of 20 for all SFBs |
| • WR_REC | 20; of a total of 20 for all SFBs |
| Hardware requirements | |
| Hardware required | PC with color monitor, keyboard, mouse or pointing device for Windows |
| Required memory on hard disk, min. | 100 Mbyte |
| Main memory, min. | 1 Gbyte |
| Processor | Intel Celeron M, 900 MHz or compatible |
| • Multi-processor system | Yes; Dual Pentium, CoreDuo, Core2Duo or compatible |
| • Hyper-threading | Yes |
| Operating systems | |
| Operating system | |
| • Windows NT 4.0 | No |
| • Windows 2000 | No |
| • Windows XP | Yes; Professional, SP2 and SP3 |
| • Windows XP embedded | Yes; With the delivery image of the SIMATIC PC |
| - supported HAL types under Windows XP | PC with single core processor without hyperthreading: ACPI-PC, ACPI uniprocessor PC; PC with multicore processors or hyper-threading: ACPI multiprocessor PC, MPS multiprocessor PC; |
| • Windows Vista | No |
| Dimensions and weight | |
| Weight | |
| • Weight, approx. | 100 g; with packaging |

Ordering data

| | Order No. |
|--|------------------------------|
| SIMATIC WinAC RTX 2009 | A 6ES7 671-0RC07-0YA0 |
| Software PLC for PC-based automation tasks with stringent deterministic requirements; PROFIBUS and PROFINET; CD-ROM with electronic documentation d, e, f; single license, executable under Windows XP SP2 | |

A: Subject to export regulations: AL: N and ECCN: EAR99S

C: Subject to export regulations: AL: N and ECCN: EAR99H

| | | |
|---|---|----------------------------|
| SIMATIC WinAC RTX 2009 Upgrade | A | 6ES7 671-0RC07-0YE0 |
| For upgrading from Basis/RTX V3.x, V4.0, V4.1 2005 and 2008; single license, executable under Windows XP SP2 | | |
| SIMATIC WinAC NV128 | C | 6ES7 671-0AG00-1YA7 |
| PC plug-in card with non-volatile memory for the storage of up to 128 KB of retentive data in the event of voltage failure | | |
| CP 5611 A2 communications processor | | 6GK1 561-1AA01 |
| PCI card (32 bit) for connection of a programming device or PC to PROFIBUS | | |
| CP 5621 communications processor | | 6GK1 562-1AA00 |
| • PCI Express x1 card (32 bit) for connection of a programming device or PC to PROFIBUS | E | |
| • PCI Express x1 card (32 bit) CP 5621 and MPI cable, 5 m | E | 6GK1 562-1AM00 |
| CP 5603 Microbox Package | C | 6GK1 560-3AU00 |
| Comprising CP 5603 module and Microbox expansion rack | | |
| CP 5613 A2 communications processor | | 6GK1 561-3AA01 |
| PCI card (32 bit; 3.3 V/5 V) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master, incl. PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows 2000 Professional/Server, Windows XP Professional, German/English | | |
| CP 1616 communications processor | | 6GK1 161-6AA01 |
| PCI Card (32 bit; 3.3/5 V universal key) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO controller (RT operation) and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows XP Professional; German/English | | |
| CP 1604 Microbox Package | | 6GK1 160-4AU00 |
| Package for implementing the CP 1604 in the SIMATIC Microbox PC; comprising the CP 1604, connection board, power supply and expansion rack for Microbox PC; for use with Development Kit DK-16xx PN IO; NCM PC | | |

E: Subject to export regulations: AL: N and ECCN: 5D002ENC3

Embedded/PC-based Automation

PC-based Control

SIMATIC WinAC RTX F

Overview



- SIMATIC WINAC RTX F:
Optimized for applications that demand a high degree of flexibility and integration capability and that must also satisfy safety requirements up to SIL 3 (IEC 61508).
- The software solution for tasks that require hard deterministic behavior and high performance.
- With real-time expansion for assuring deterministic behavior for the control section.
- Distributed I/O can be connected over PROFIBUS and/or PROFINET, also safety-related over PROFIsafe.

Technical specifications

| | 6ES7 671-1RC07-0YA0 |
|---------------------------------|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| Product version | |
| Hardware product version | - |
| Firmware version | 4.5 |
| associated programming package | STEP7 V5.4 SP5 or higher + HSP135 as basic requirement for the HSP178 for WinAC RTX F 2009 on Embedded Controller + HSP179 for WinAC RTX F 2009 on PC station / iMap V3.0 SP1 / option package S7 Distributed Safety V5.4 SP5 or higher |
| Memory | |
| Work memory | |
| • integrated (for program) | 4 Mbyte; Adjustable; depends on Non Paged Memory Pool |
| • integrated (for data) | 4 Mbyte; Adjustable; depends on Non Paged Memory Pool |
| Load memory | |
| • integrated RAM, max. | 8 Mbyte; Adjustable; depends on Non Paged Memory Pool |
| CPU/ blocks | |
| DB | |
| • Number, max. | 65 535; Limited only by RAM set for data |
| FB | |
| • Number, max. | 65 536; Limited only by RAM set for code |
| FC | |
| • Number, max. | 65 536; Limited only by RAM set for code |
| OB | |
| • Number, max. | Limited only by RAM for code |
| • Number of free cycle OBs | 1; OB 1 |
| • Number of time alarm OBs | 1; OB 10 |
| • Number of delay alarm OBs | 1; OB 20 |
| • Number of watchdog interrupts | 9; OB 30-38 |
| • Number of process alarm OBs | 1; OB 40 |

| | 6ES7 671-1RC07-0YA0 |
|---|--------------------------|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| OB | |
| • Number of ODK OBs | 3; OB 52-54 |
| • Number of DPV1 alarm OBs | 3; OB 55-57 |
| • Number of isochronous mode OBs | 2; OB 61-62 |
| • Number of startup OBs | 2; OB 100, 102 |
| • Number of asynchronous error OBs | 7; OB 80, 82-85, 86, 88 |
| • Number of synchronous error OBs | 2; OB 121, 122 |
| Nesting depth | |
| • per priority class | 24 |
| • additional within an error OB | 24 |
| CPU/ processing times | |
| for bit operations, min. | 0.004 µs; typ. |
| for fixed point arithmetic, min. | 0.003 µs; typ. |
| for floating point arithmetic, min. | 0.004 µs; typ. |
| Reference platform | Pentium IV, 2.4 GHz |
| Times/counters and their retentivity | |
| S7 counter | |
| • Number | 2 048 |
| • Retentivity | |
| - can be set | Yes |
| - lower limit | 0 |
| - upper limit | 2047 |
| - preset | 8 |
| • Counting range | |
| - can be set | Yes |
| - lower limit | 0 |
| - upper limit | 999 |
| IEC counter | |
| • present | Yes |
| • Type | SFB |
| S7 times | |
| • Number | 2 048 |

Technical specifications (continued)

| 6ES7 671-1RC07-0YA0 | |
|--|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| S7 times | |
| • Retentivity | Yes |
| - can be set | 0 |
| - lower limit | 2 047 |
| - upper limit | 0 |
| • Time range | |
| - lower limit | 10 ms |
| - upper limit | 9 990 s |
| IEC timer | |
| • present | Yes |
| • Type | SFB |
| Data areas and their retentivity | |
| Retentivity without UPS and PS Extension Board | 128 KB with SIMATIC IPC427C and HMI IPC477C; further SIMATIC PCs on request |
| Retentivity with UPS | all data |
| Flag | |
| • Number, max. | 16 Kibyte |
| • of which retentive | MB 0 to MB 16383 |
| • Retentivity preset | MB 0 to MB 15 |
| • Number of clock memories | 8 |
| Local data | |
| • adjustable, max. | 32 Kibyte |
| • preset | 16 Kibyte |
| • per priority class, max. | 32 Kibyte |
| Address area | |
| I/O address area | |
| • overall | 16 Kibyte |
| • Outputs | 16 Kibyte |
| • of which, distributed | |
| - DP interface, inputs | 16 Kibyte |
| - DP interface, outputs | 16 Kibyte |
| - PN interface, inputs | 16 Kibyte |
| - PN interface, outputs | 16 Kibyte |
| Process image | |
| • Inputs, adjustable | 8 Kibyte |
| • Outputs, adjustable | 8 Kibyte |
| • Inputs, default | 512 byte |
| • Outputs, default | 512 byte |
| Subprocess images | |
| • Number of subprocess images, max. | 15 |
| Digital channels | |
| • Inputs | 128 000 |
| • Outputs | 128 000 |
| Analog channels | |
| • Inputs | 8 000 |
| • Outputs | 8 000 |
| Hardware configuration | |
| Submodules | |
| • Number of submodules, max | 4 |

| 6ES7 671-1RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| Submodules | |
| • of which PROFIBUS, max. | 4; Supported interfaces: see 1st and 2nd interface |
| • of which Industrial Ethernet, max. | 1; Supported interfaces: see 3rd and 4th interface |
| Number of operable FMs and CPs (recommended) | |
| • FM | 4; FM distributed: FM 350-1/350-2, FM 351, FM 352, FM 353, FM 355/355-2 |
| • CP, point-to-point | 2; CP 340, CP 341 distributed |
| • CP, LAN | Over PC CP |
| Time of day | |
| Clock | |
| • Hardware clock (real-time clock) | Yes |
| • battery-backed and synchronizable | Yes |
| Runtime meter | |
| • Number | 8 |
| Clock synchronization | |
| • supported | Yes |
| • to PC-CP, slave | Yes |
| • on Ethernet via NTP | Yes |
| S7 message functions | |
| Number of login stations for message functions, max. | 62 |
| SCAN procedure | No |
| Process diagnostic messages | Yes; ALARM_S, ALARM_SQ, ALARM_D, ALARM_DQ |
| simultaneously active Alarm-S blocks, max. | 20; of a total of 20 for all SFCs |
| Alarm 8-blocks | Yes |
| • Number of instances for alarm 8 and S7 communication blocks, max. | 600 |
| Process control messages | No |
| Test commissioning functions | |
| Status/control | |
| • Status/control variable | Yes |
| Forcing | |
| • Forcing | No |
| Status block | Yes |
| Single step | Yes |
| Diagnostic buffer | |
| • present | Yes |
| • Number of entries, max. | 3 200 |
| - preset | 120 |
| Communication functions | |
| PG/OP communication | Yes |
| Data record routing | No |
| Global data communication | |
| • supported | No |
| S7 basic communication | |
| • supported | No |

Embedded/PC-based Automation

PC-based Control

SIMATIC WinAC RTX F

Technical specifications (continued)

| 6ES7 671-1RC07-0YA0 | |
|--|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| S7 communication | |
| • supported | Yes |
| • as server | Yes |
| • as client | Yes |
| • User data per job, max. | 64 Kibyte; Depends on which block is used: BSEND/USEND or PUT/GET |
| Web server | |
| • Web server | No |
| Open IE communication | |
| • TCP/IP | Yes |
| - Number of connections, max. | Dependent on interface |
| - Data length, max. | 64 KB - 2 bytes = 65534 bytes |
| • ISO-on-TCP (RFC1006) | No |
| • UDP | Yes |
| - Number of connections, max. | Dependent on interface |
| - Data length, max. | 1 472 byte |
| Number of connections | |
| • overall | 64 |
| • usable for PG communication | |
| - reserved for PG communication | 1 |
| • usable for OP communication | |
| - reserved for OP communication | 1 |
| PROFINET CBA (at set setpoint communication load) | |
| • Setpoint for the CPU communication load | 20 % |
| • Number of remote interconnection partners | 64 |
| • Number of functions, master/slave | 30 |
| • Total of all Master/Slave connections | 1 000 |
| • Data length of all incoming connections master/slave, max. | 6 800 byte |
| • Data length of all outgoing connections master/slave, max. | 6 800 byte |
| • Number of device-internal and PROFIBUS interconnections | 500 |
| • Data length of device-internal and PROFIBUS interconnections, max. | 4 000 byte |
| • Data length per connection, max. | 1 400 byte |
| • Remote interconnections with acyclic transmission | |
| - Sampling frequency: Sampling time, min. | 500 ms |
| - Number of incoming interconnections | 100 |
| - Number of outgoing interconnections | 100 |
| - Data length of all incoming interconnections, max. | 2 000 byte |
| - Data length of all outgoing interconnections, max. | 2 000 byte |
| - Data length per connection, max. | 1 400 byte |

| 6ES7 671-1RC07-0YA0 | |
|--|--|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| • Remote interconnections with cyclic transmission | |
| - Transmission frequency: Transmission interval, min. | 10 ms |
| - Number of incoming interconnections | 200 |
| - Number of outgoing interconnections | 200 |
| - Data length of all incoming interconnections, max. | 4 800 byte |
| - Data length of all outgoing interconnections, max. | 4 800 byte |
| - Data length per connection, max. | 250 byte |
| • HMI variables via PROFINET (acyclic) | |
| - Number of stations that can log on for HMI variables (PN OPC/iMap) | 3 |
| - HMI variable updating | 500 ms |
| - Number of HMI variables | 200 |
| - Data length of all HMI variables, max. | 2 000 byte |
| • PROFIBUS proxy functionality | |
| - supported | Yes |
| - Number of linked PROFIBUS devices | 16 |
| - Data length per connection, max. | 240 byte; Slave-dependent |
| 1st interface | |
| Type of interface | CP 5611-A2, CP 5621, integrated PB interface of the SIMATIC PC |
| Max. no. of simultaneously operable CPs | 1 |
| Physics | RS 485 / PROFIBUS |
| Isolated | Yes |
| Power supply to interface (15 to 30 V DC), max. | does not exist |
| Functionality | |
| • MPI | No |
| • DP master | Yes |
| • DP slave | No |
| DP master | |
| • Number of connections, max. | 8 |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes |
| - Global data communication | No |
| - S7 basic communication | No |
| - S7 communication | Yes |
| - Equidistance mode support | Yes; Only in conjunction with isochronous mode |
| - Isochronous mode | Yes |
| - SYNC/FREEZE | Yes |
| - Activation/deactivation of DP slaves | Yes |
| - Direct data exchange (slave-to-slave communication) | Yes |

Technical specifications (continued)

| 6ES7 671-1RC07-0YA0 | |
|---|--|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| DP master | |
| • Services | |
| - DPV0 | Yes |
| - DPV1 | Yes |
| • Transmission speeds, max. | 12 Mbit/s |
| • Number of DP slaves, max. | 64 |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per DP slave | |
| - Inputs, max. | 244 byte |
| - Outputs, max. | 244 byte |
| 2nd interface | |
| Type of interface | CP 5613, CP 5613-A2, CP 5603 |
| Max. no. of simultaneously operable CPs | 4 |
| Physics | RS 485 / PROFIBUS |
| Isolated | Yes |
| Functionality | |
| • MPI | No |
| • DP master | Yes |
| • DP slave | No |
| DP master | |
| • Number of connections, max. | 50 |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes |
| - Global data communication | No |
| - S7 basic communication | No |
| - S7 communication | Yes |
| - Equidistance mode support | Yes; Only in conjunction with isochronous mode |
| - Isochronous mode | Yes |
| - SYNC/FREEZE | Yes |
| - Activation/deactivation of DP slaves | Yes |
| - Direct data exchange (slave-to-slave communication) | Yes |
| - DPV0 | Yes |
| - DPV1 | Yes |
| • Transmission speeds, max. | 12 Mbit/s |
| • Number of DP slaves, max. | 125 |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per DP slave | |
| - Inputs, max. | 244 byte |
| - Outputs, max. | 244 byte |
| 3rd interface | |
| Type of interface | PROFINET |
| Max. no. of simultaneously operable CPs | 1; Intel Pro/1000 (Intel 82571EB, 82573L, 82574L, 82541PI; non shared IRQ required); integrated IE interface SIMATIC PC 4x7B, 6x7B, 8x7B and IPC4x7C |

| 6ES7 671-1RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| Physics | Ethernet |
| Isolated | Yes |
| automatic detection of transmission speed | Yes; 10/100 Mbit/s |
| Functionality | |
| • PROFINET IO Controller | Yes |
| • PROFINET IO Device | No |
| • PROFINET CBA | Yes |
| • Open IE communication | Yes |
| • Web server | No |
| PROFINET IO Controller | |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes; S7 routing |
| - S7 communication | Yes |
| - Open IE communication | Yes |
| • Transmission speeds, min. | 100 Mbit/s |
| • Transmission rate, max. | 100 Mbit/s |
| • Total number of connectable IO Devices, max. | 128 |
| • IRT, supported | No |
| • Prioritized startup supported | Yes |
| - Number of IO Devices, max. | 32 |
| • Activation/deactivation of IO Devices | Yes |
| - Number of IO Devices that can be simultaneously activated/deactivated, max. | 8 |
| • IO Devices changing during operation (partner ports), supported | Yes |
| • Device replacement without swap medium | Yes |
| • Send clock times | 1 ms |
| • Updating time | 1 - 512 ms (minimum value depends on communication share set for PROFINET I/O, on the number of I/O devices, and on the volume of configured user data) |
| • Address area | |
| - Inputs, max. | 16 Kibyte |
| - Outputs, max. | 16 Kibyte |
| • User data per address area, max. | 2 kbyte |
| - User data consistency, max. | 256 byte |
| SIMATIC communication | |
| • PG/OP communication | Yes |
| • S7 routing | Yes |
| • S7 communication | Yes |
| • Number of connections, max. | 16 |
| Open IE communication | |
| • Open IE communication, supported | Yes |
| • Number of connections, max. | 32 |

Embedded/PC-based Automation

PC-based Control

SIMATIC WinAC RTX F

Technical specifications (continued)

| 6ES7 671-1RC07-0YA0 | |
|---|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| Open IE communication | |
| • Local port numbers used at the system end | 0, 20, 21, 23, 25, 80, 102, 135, 161, 8 080, 34 962, 34 963, 34 964, 65 532, 65 533, 65 534, 65 535 |
| 4th interface | |
| Type of interface | PROFINET |
| Max. no. of simultaneously operable CPs | CP 1616 (HW release 8 or above), CP 1604 (HW release 7 or higher), integrated PN interface of SIMATIC PC and S7-mEC |
| Physics | Ethernet |
| Isolated | Yes |
| automatic detection of transmission speed | Yes; 10/100 Mbit/s |
| Functionality | |
| • PROFINET IO Controller | Yes |
| • PROFINET CBA | Yes |
| • Open IE communication | Yes |
| • Web server | No |
| PROFINET IO Controller | |
| • Services | |
| - PG/OP communication | Yes |
| - Routing | Yes; S7 routing |
| - S7 communication | Yes |
| - Open IE communication | Yes |
| • Transmission rate, min. | 100 Mbit/s |
| • Transmission rate, max. | 100 Mbit/s |
| • Total number of connectable IO Devices, max. | 256 |
| • Number of IO Devices with IRT and the option "high flexibility", max. | 64 |
| - of which in line, max. | 32 |
| • IRT, supported | Yes |
| • Prioritized startup supported | Yes |
| - Number of IO Devices, max. | 32 |
| • Activation/deactivation of IO Devices | Yes |
| - Number of IO Devices that can be simultaneously activated/deactivated, max. | 8 |
| • IO Devices changing during operation (partner ports), supported | Yes |
| • Device replacement without swap medium | Yes |
| • Send clock times | 250 µs, 500 µs, 1 ms |
| • Updating time | 0.25...512 depending on the send cycle |
| • Address area | |
| - Inputs, max. | 16 byte; KB |
| - Outputs, max. | 16 byte; KB |
| • User data per address area, max. | 2 byte |
| - User data consistency, max. | 256 byte; Byte |

| 6ES7 671-1RC07-0YA0 | |
|--|--|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| SIMATIC communication | |
| • PG/OP communication | Yes |
| • S7 routing | Yes |
| • S7 communication | Yes |
| • Number of connections, max. | 32 |
| Open IE communication | |
| • Open IE communication, supported | Yes |
| • Number of connections, max. | 32 |
| • Local port numbers used at the system end | 0, 20, 21, 25, 80, 102, 135, 161, 34 962, 34 963, 34 964, 65 532, 65 533, 65 534, 65 535 |
| Isochronous mode | |
| Isochronous mode | Yes; only PROFIBUS |
| Number of DP masters with isochronous mode | 2 |
| User data per isochronous slave, max. | 128 byte |
| equidistance | Yes |
| shortest clock pulse | 2.2 ms; 2.2 ms without partial process image; 2.2 ms with partial process image |
| CPU/ programming | |
| Programming language | |
| • STEP 7 | Yes; V5.4 SP5 + HSP135 as basic requirement for the HSP178 for WinAC RTX F 2009 on Embedded Controller + HSP179 for WinAC RTX F 2009 on PC station, engineering tools (optional) |
| • LAD | Yes |
| • FBD | Yes |
| • STL | Yes |
| • SCL | Yes |
| • CFC | Yes |
| • GRAPH | Yes |
| • HiGraph® | Yes |
| Nesting levels | 8 |
| User program protection/ password protection | Yes |
| Software libraries | |
| • Easy Motion Control | Yes |
| • Software redundancy | Yes; from V1.2, operation of WinAC RTX with WinAC RTX only |
| Open Development interfaces | |
| • CCX (Custom Code Extension) | Yes; WinAC ODK V4.2 or higher |
| • SMX (Shared Memory Extension) | Yes; WinAC ODK V4.2 or higher |
| - Inputs | 4 Kibyte |
| - Outputs | 4 Kibyte |
| • CMI (Controller Management Interface) | Yes; WinAC ODK V4.2 or higher |

Technical specifications (continued)

| 6ES7 671-1RC07-0YA0 | |
|--|---|
| Product type designation | SIMATIC WinAC RTX F 2009 |
| Number of simultaneously active SFCs | |
| • DPSYC_FR | 20; of a total of 20 for all SFCs |
| • D_ACT_DP | 20; of a total of 20 for all SFCs |
| • RD_REC | 20; of a total of 20 for all SFCs |
| • WR_REC | 20; of a total of 20 for all SFCs |
| • WR_PARM | 20; of a total of 20 for all SFCs |
| • PARM_MOD | 20; of a total of 20 for all SFCs |
| • WR_DPARM | 20; of a total of 20 for all SFCs |
| • DPNRM_DG | 20; of a total of 20 for all SFCs |
| • RDSYSST | 20; of a total of 20 for all SFCs |
| Number of simultaneously active SFBs | |
| • RD_REC | 20; of a total of 20 for all SFBs |
| • WR_REC | 20; of a total of 20 for all SFBs |
| Hardware requirements | |
| Hardware required | PC with color monitor, keyboard, mouse or pointing device for Windows |
| Required memory on hard disk, min. | 100 Mbyte |
| Main memory, min. | 1 Gbyte |
| Processor | |
| • Multi-processor system | No |
| • Hyper-threading | Yes |
| Operating systems | |
| Operating system | |
| • Windows NT 4.0 | No |
| • Windows 2000 | No |
| • Windows XP | Yes; Professional, SP2 and SP3 |
| • Windows XP embedded | Yes; With the delivery image of the SIMATIC PC |
| - supported HAL types under Windows XP | PC with single core processor without hyperthreading; ACPI-PC, ACPI uniprocessor PC; PC with multicore processors or hyperthreading; ACPI multiprocessor PC, MPS multiprocessor PC; |
| • Windows Vista | No |
| Dimensions and weight | |
| Weight | |
| • Weight, approx. | 100 g; with packaging |

Ordering data

Order No.

| | | |
|---|---|----------------------------|
| SIMATIC WinAC RTX F 2009 | A | 6ES7 671-1RC07-0YA0 |
| CP 5611 A2 communications processor | | 6GK1 561-1AA01 |
| PCI card (32 bit) for connection of a programming device or PC to PROFIBUS | | |
| CP 5621 communications processor | | 6GK1 562-1AA00 |
| PCI Express x1 card (32 bit) for connection of a programming device or PC to PROFIBUS | E | |
| PCI Express x1 card (32 bit) CP 5621 and MPI cable, 5 m | E | 6GK1 562-1AM00 |
| CP 5603 Microbox Package | C | 6GK1 560-3AU00 |
| Comprising CP 5603 module and Microbox expansion rack | | |
| CP 5613 A2 communications processor | | 6GK1 561-3AA01 |
| PCI card (32 bit; 3.3 V/5 V) for connection to PROFIBUS incl. DP-Base software with NCM PC; DP-RAM interface for DP master, incl. PG and FDL protocol; single license for 1 installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows 2000 Professional/Server, Windows XP Professional, German/English | | |
| CP 1616 communications processor | | 6GK1 161-6AA01 |
| PCI Card (32 bit; 3.3/5 V universal key) with ASIC ERTEC 400 for connecting PCs to PROFINET IO with 4-port real-time switch (RJ45); incl. IO-Base software for PROFINET IO controller (RT operation) and NCM PC; single license for one installation, runtime software, software and electronic manual on CD-ROM, Class A, for 32 bit Windows XP Professional; German/English | | |
| CP 1604 Microbox Package | | 6GK1 160-4AU00 |
| Package for implementing the CP 1604 in the SIMATIC Microbox PC; comprising the CP 1604, connection board, power supply and expansion rack for Microbox PC; for use with Development Kit DK-16xx PN IO; NCM PC | | |

A: Subject to export regulations: AL: N and ECCN: EAR99S

C: Subject to export regulations: AL: N and ECCN: EAR99H

E: Subject to export regulations: AL: N and ECCN: 5D002ENC3

Embedded/PC-based Automation

PC-based Control

SIMATIC WinAC ODK

Overview



- SIMATIC WinAC software PLCs support powerful interfaces which permit close meshing of the control task with PC-based applications.
- WinAC ODK allows the user to develop applications or to integrate already existing applications into the control task.

New with WinAC ODK V4.2:

- CCX interface:
 - New SFB 65003 for asynchronous execution of ODK applications
 - Expansion of data access functions
 - Creation of Windows DLL with C# and VB
- SMX interface:
 - Access to the Shared Memory interface under IntervalZero RTX
 - Expansion of data access functions
 - Creation of Windows applications with C# and VB
- Supports MS Visual Studio 2005 and 2008 (under Windows)

Technical specifications

| 6ES7 806-1CC03-0BA0 | |
|---|--|
| Product type designation | SIMATIC WinAC ODK V4.2 |
| Open Development interfaces | |
| • CCX (Custom Code Extension) | Yes; WinAC RTX 2008 (V4.4) or higher; programming languages: Microsoft Visual C++ V6.0 SP5 or higher, .net 2003, 2005, 2008; Microsoft Visual Basic 2005, 2008; Microsoft Visual C# 2005, 2008 |
| • SMX (Shared Memory Extension) | Yes; WinAC RTX 2008 (V4.4) or higher; programming languages: Microsoft Visual C++ V6.0 SP5 or higher, .net 2003, 2005, 2008; Microsoft Visual Basic 2005, 2008; Microsoft Visual C# 2005, 2008 |
| • CMI (Controller Management Interface) | Yes; WinAC RTX 2005 SP2 (V4.3) or higher; programming languages: Microsoft Visual C++ V6.0 SP5 or higher, .net 2003, 2005, 2008; Microsoft Visual Basic V6.0 SP5 or higher, .net 2003, 2005, 2008; Microsoft Visual C# .net 2003, 2005, 2008 |
| Hardware requirements | |
| Hardware required | PC with color monitor, keyboard, mouse or pointing device for Windows |
| Required memory on hard disk, min. | 30 Mbyte |
| Main memory, min. | 512 Mbyte |
| Processor | Intel Pentium 800 MHz |
| Software requirement | |
| Software required | Microsoft Visual Developer Studio, for details see interfaces; CCX and SMX realtime applications in addition: IntervalZero SDK V8.1 (SDK version must match the WinAC RTX version) |
| Operating systems | |
| Operating system | |
| • Windows XP | Yes; Professional, SP2 and SP3 |
| Dimensions and weight | |
| Weight | |
| • Weight, approx. | 200 g |

Ordering data

Order No.

SIMATIC WinAC ODK V4.2

for integration of C/C++ code in WinAC PLCs, executable under Windows XP SP2 or SP3; CD-ROM with electronic documentation

Single license

A

6ES7 806-1CC03-0BA0

A: Subject to export regulations: AL: N and ECCN: EAR99S