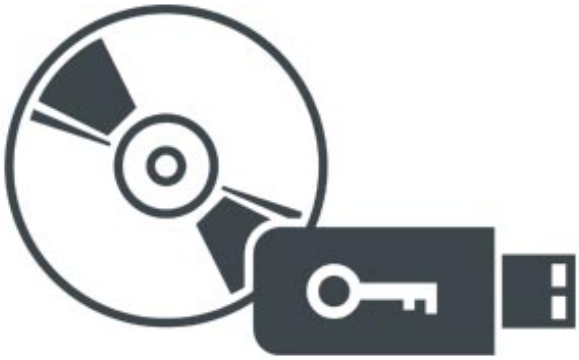
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Data sheet 6ES7671-0RC08-0YA0

SIMATIC WinAC RTX 2010, single license for 1 installation, R-SW, SW and documentation on DVD, license key on USB flash drive, Class A, 3 languages (de,en,fr), executable in Windows XP SP2, SP3 or Windows 7 32-bit, incl. InterValzero RTX, Reference HW: SIMATIC PC



General information	
Product type designation	RTX 2010
Firmware version	V4.6
Product function	
• Isochronous mode	Yes
Engineering with	
• Programming package	STEP 7 as of V5.5 + HW update / iMap V3.0 SP1
Memory	
Type of memory	RAM
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 processing times	
for bit operations, typ.	0.004 µs
for fixed point arithmetic, typ.	0.003 µs
for floating point arithmetic, typ.	0.004 µs

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Reference platform	Pentium 4, 2.4 GHz
CPU-blocks	
DB	
• Number, max.	65 535; Limited only by RAM set for data
• Size, max.	64 kbyte
FB	
• Number, max.	65 536; Limited only by RAM set for code
• Size, max.	64 kbyte
FC	
• Number, max.	65 536; Limited only by RAM set for code
OB	
• Number, max.	Limited only by RAM set for code
• Size, max.	64 kbyte
• 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 cyclic interrupt OBs	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
Counters, timers and their retentivity	
S7 counter	
• Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	8
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes

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• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)

Data areas and their retentivity	
Retentivity without UPS and PS Extension Board	128 KB with SIMATIC IPC227D, IPC427C, IPC427D, HMI IPC277D, IPC477C, IPC477D; further SIMATIC IPCs on request
Retentivity with UPS	all data
Flag	
• Number, max.	16 kbyte
• of which retentive	MB 0 to MB 16383
• Retentivity preset	MB 0 to MB 15
• Number of clock memories	8
Data blocks	
• Retentivity adjustable	Yes; via non-retain property on DB
• Retentivity preset	Yes
Local data	
• adjustable, max.	64 kbyte
• preset	32 kbyte
• per priority class, max.	61 440 byte

Address area	
I/O address area	
• Inputs	16 kbyte
• Outputs	16 kbyte
Process image	
• Inputs, adjustable	8 kbyte; 16 KB with STEP 7 V5.5 SP3 or higher
• Outputs, adjustable	8 kbyte; 16 KB with STEP 7 V5.5 SP3 or higher
• Inputs, default	512 byte
• Outputs, default	512 byte
Subprocess images	

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• Number of subprocess images, max.	15
Digital channels	
• Inputs	128 000
• Outputs	128 000
Analog channels	
• Inputs	8 000
• Outputs	8 000

Hardware configuration	
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, PtP	CP 340, CP 341 distributed
• CP, LAN	Over PC CP
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

Time of day	
Clock	
• Hardware clock (real-time)	Yes
• retentive and synchronizable	Yes
Operating hours counter	
• Number	8
Clock synchronization	
• supported	Yes
• to PC-CP, slave	Yes
• on Ethernet via NTP	Yes

1. Interface	
Interface type	CP 5611, CP 5611-A2, CP 5612, CP 5621, CP 5622, integrated PROFIBUS interface of the SIMATIC PC
Isolated	Yes
Number of simultaneously operable CPs, max.	1
Interface types	
• RS 485	Yes; PROFIBUS
Protocols	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
PROFIBUS DP master	
• Number of connections, max.	8
• Transmission rate, max.	12 Mbit/s

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• Number of DP slaves, max.	64
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Equidistance	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
Address area	
— Inputs, max.	16 kbyte
— Outputs, max.	16 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
2. Interface	
Interface type	CP 5613, CP 5613-A2, CP 5603, CP 5623
Isolated	Yes
Number of simultaneously operable CPs, max.	4
Interface types	
• RS 485	Yes; PROFIBUS
Protocols	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
PROFIBUS DP master	
• Number of connections, max.	50
• Transmission rate, max.	12 Mbit/s
• Number of DP slaves, max.	125
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No

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— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Equidistance	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
Address area	
— Inputs, max.	16 kbyte
— Outputs, max.	16 kbyte
User data per DP slave	
— Inputs, max.	244 byte
— Outputs, max.	244 byte

3. Interface	
Interface type	PROFINET
Isolated	Yes
Number of simultaneously operable CPs, max.	1; Intel Pro/1000 (82573L, 82574L, 82541PI; non-shared IRQ required); integrated IE interface SIMATIC PC 4x7B, 6x7B, 8x7B, IPC4x7C, IPC6x7C, IPC8x7C, IPC2x7D, IPC4x7D
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• Number of ports	1
• integrated switch	No
• RJ 45 (Ethernet)	Yes
Protocols	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
• Media redundancy	No
PROFINET IO Controller	
• Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 routing	Yes

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— S7 communication	Yes
— Isochronous mode	No
— IRT	No
— Prioritized startup	Yes
— Number of IO devices with prioritized startup, max.	32
— Number of connectable IO Devices for RT, max.	128
— of which in line, max.	128
— 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 cycles	1 ms
— Updating time	1 to 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 kbyte
— Outputs, max.	16 kbyte
— User data per address area, max.	2 kbyte
— User data consistency, max.	254 byte
PROFINET CBA	
• acyclic transmission	Yes
• cyclic transmission	Yes
Open IE communication	
• Number of connections, max.	32
• Local port numbers used at the system end	0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
• Keep-alive function, supported	Yes
SIMATIC communication	
• Number of connections, max.	16

4. Interface	
Interface type	PROFINET
Isolated	Yes
Number of simultaneously operable CPs, max.	1; CP 1616 (hardware release 8 or higher), CP 1604 (hardware release 7 or higher), integrated PROFINET interface of SIMATIC IPC and S7-mEC
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes

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Change of IP address at runtime, supported	Yes
Interface types	
• Number of ports	3
• integrated switch	Yes
• RJ 45 (Ethernet)	Yes
Protocols	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
• Web server	Yes
• Media redundancy	Yes
PROFINET IO Controller	
• Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— S7 communication	Yes
— Isochronous mode	Yes
— IRT	Yes
— Prioritized startup	Yes
— Number of IO devices with prioritized startup, max.	32
— Of which IO devices with IRT, max.	64
— of which in line, max.	32
— Number of IO Devices with IRT and the option "high flexibility"	64
— of which in line, max.	32
— Number of connectable IO Devices for RT, max.	256
— of which in line, max.	256
— 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 cycles	250 µs, 500 µs, 1 ms
— Updating time	0.25...512 depending on the send cycle
Address area	
— Inputs, max.	16 kbyte
— Outputs, max.	16 kbyte

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— User data per address area, max.	2 kbyte
— User data consistency, max.	254 byte
Open IE communication	
• Local port numbers used at the system end	0, 20, 21, 25, 80, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535
SIMATIC communication	
• Number of connections, max.	32

Protocols	
Open IE communication	
• TCP/IP	Yes
— Number of connections, max.	32
— Data length for connection type 01H, max.	Not supported
— Data length for connection type 11H, max.	65 534 byte
— Data length, max.	65 534 byte
• ISO-on-TCP (RFC1006)	Yes
— Number of connections, max.	32
— Data length, max.	65 534 byte
• UDP	Yes
— Number of connections, max.	32
— Data length, max.	1 472 byte
Web server	
• supported	Yes
• User-defined websites	No
• Number of HTTP clients	2
Media redundancy	
• Switchover time on line break, typ.	200 ms
• Number of stations in the ring, max.	50

Isochronous mode	
Equidistance	Yes
Number of DP masters with isochronous mode	2
User data per isochronous slave, max.	128 byte
shortest clock pulse	2.2 ms; 2.2 ms without partial process image; 2.2 ms with partial process image

Communication functions	
PG/OP communication	Yes
Data record routing	Yes; only with CP 5611 or integrated PROFIBUS interface of the SIMATIC PC
Global data communication	
• supported	No
S7 basic communication	
• supported	No

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S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
• User data per job, max.	64 kbyte; when using BSEND/USEND
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 und PROFIBUS interconnections, max.	4 000 byte
• Data length per connection, max.	1 400 byte
Remote interconnections with acyclic transmission	
— Sampling interval, 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
— 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

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— 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
Number of connections	
• overall	96
• usable for PG communication	
— reserved for PG communication	1
• usable for OP communication	
— reserved for OP communication	1

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.	4 000
Process control messages	No
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	32

Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	20
Status/control	
• Status/control variable	Yes
Forcing	
• Forcing	No
Diagnostic buffer	
• present	Yes
• Number of entries, max.	
— adjustable	Yes
— preset	120

Hardware requirement	
Hardware required	PC with color monitor, keyboard, mouse or pointing device for Windows
Processor	
• Processor	Intel Celeron M, 900 MHz or compatible
— Multi-processor system	Yes; Dual Pentium, CoreDuo, Core2Duo or compatible

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— Hyper-threading	Yes
Memory	
• Main memory, min.	1 Gbyte; WES7: 2 GB
• Required memory on hard disk	100 Mbyte
Operating systems	
pre-installed operating system	
• Windows XP Embedded	Yes; With the delivery image of the SIMATIC PC
— supported HAL types under Windows XP	ACPI uniprocessor PC, ACPI multiprocessor PC, MPS multiprocessor PC
• Windows Embedded Standard 7	Yes; With the delivery image of the SIMATIC PC
Configuration	
Configuration software	
• STEP 7	Yes; V5.5 and higher, Engineering Tools (optional)
Programming	
• Nesting levels	8
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Software libraries	
— Easy Motion Control	Yes
— Software redundancy	Yes; As of V1.2, only operation of WinAC RTX with WinAC RTX
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	
— RDREC	20; of a total of 20 for all SFBs
— WRREC	20; of a total of 20 for all SFBs
Know-how protection	
• User program protection/password protection	Yes

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Open Development interfaces	
• CCX (Custom Code Extension)	Yes; WinAC ODK V4.2 or higher
• CMI (Controller Management Interface)	Yes; WinAC ODK V4.2 or higher
• SMX (Shared Memory Extension)	Yes; WinAC ODK V4.2 or higher
— Inputs	4 kbyte
— Outputs	4 kbyte

Weights	
Weight, approx.	100 g; With packaging

Further information

Notes on Microsoft Updates 2018-01 (Meltdown and Spectre) with SIMATIC WinAC RTX
https://support.industry.siemens.com/cs/ww/en/view/109755177

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