

SIEMENS

Product data sheet

6ES7671-1RC08-0YE0


SIMATIC WINAC RTX F 2010 UPGR UPGRADE F.
WINAC RTX F VERSION 2009,
SINGLE LICENSE F. 1 INSTALL., R-SW,
SW AND DOCU. ON CD,
LICENSE KEY ON USB STICK, CLASS A,
2 LANGUAGES (G,E),
EXECUTABLE UNDER WINDOWS XP SP2,
SP3 OR WINDOWS 7 AND INTERVALZERO RTX
REFERENCE-HW: SIMATIC PC

General information

Hardware product version	-
Firmware version	V4.6

Engineering with

Programming package	STEP 7 V5.5 or higher + hardware update / iMap V3.0 SP1 / option package S7 Distributed Safety V5.4 + SP5 / S7 F Configuration Pack V5.5 + SP6 + HF1
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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
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CPU processing times

for bit operations, min.	0.0040 μ s ; typ.
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for fixed point arithmetic, min.	0.0030 µs ; typ.
for floating point arithmetic, min.	0.0040 µs ; typ.
Reference platform	Pentium IV, 2.4 GHz
CPU-blocks	
DB	
Number, max.	65535 ; Limited only by RAM set for data
Size, max.	64 kbyte
FB	
Number, max.	65536 ; Limited only by RAM set for code
Size, max.	64 kbyte
FC	
Number, max.	65536 ; Limited only by RAM set for code
Size, max.	64 kbyte
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 time 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 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	2048

Retentivity	
adjustable	Yes
lower limit	0
upper limit	2047
preset	8
Counting range	
adjustable	Yes
lower limit	0
upper limit	999
IEC counter	
present	Yes
Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2048
Retentivity	
adjustable	Yes
lower limit	0
upper limit	2047
preset	0
Time range	
lower limit	10 ms
upper limit	9990 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 kbyte with SIMATIC IPC427C and HMI IPC477C; further SIMATIC PCs 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	
Number, max.	Limited only by available retentive memory (NVRAM, or file storage)
Size, max.	64 kbyte
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.	61440 byte
Address area	
I/O address area	
Inputs	16 kbyte
Outputs	16 kbyte
of which, distributed	
DP interface, inputs	16 kbyte
DP interface, outputs	16 kbyte
PN interface, inputs	16 kbyte
PN interface, outputs	16 kbyte
Process image	
Inputs, adjustable	8 kbyte
Outputs, adjustable	8 kbyte
Inputs, default	512 byte
Outputs, default	512 byte
Subprocess images	
Number of subprocess images, max.	15
Digital channels	
Inputs	128000
Outputs	128000
Analog channels	
Inputs	8000
Outputs	8000

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	4 ; FM distributed: FM 350-1, FM 350-2, FM 351, FM 352 / FM 352-5, FM 353, FM 354, FM 355, FM 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
Operating hours counter	
Number	8
Clock synchronization	
supported	Yes
to PC-CP, slave	Yes
on Ethernet via NTP	Yes
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
Number of connection resources	8
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
S7 communication, as client	Yes
S7 communication, as server	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 rate, max.	12 Mbit/s
Number of DP slaves, max.	64
Address area	
Inputs, max.	16 kbyte
Outputs, max.	16 kbyte
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, CP 5623
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
S7 communication, as client	Yes
S7 communication, as server	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 rate, max.	12 Mbit/s
Number of DP slaves, max.	125
Address area	
Inputs, max.	16 kbyte
Outputs, max.	16 kbyte
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, IPC4x7C, IPC6x7C, IPC8x7C
Physics	Ethernet
Isolated	Yes
Integrated switch	No

Number of ports	1
Automatic detection of transmission speed	Yes ; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Media redundancy	
supported	No
Functionality	
PROFINET IO Controller	Yes
PROFINET IO Device	No
PROFINET CBA	Yes
Open IE communication	Yes
PROFINET IO Controller	
Services	
PG/OP communication	Yes
Routing	Yes ; S7 routing
S7 communication	Yes
Isochronous mode	No
Open IE communication	Yes
Transmission rate, min.	100 Mbit/s
Transmission rate, max.	100 Mbit/s
Number of connectable IO devices, max.	128
Max. number of connectable IO devices for RT	128
of which in line, max.	128
IRT, supported	No
Prioritized startup supported	Yes
Number of IO Devices, max.	32
Activation/deactivation of IO Devices	Yes
Maximum number of IO devices that can be activated/deactivated at the same time.	8
IO Devices changing during operation (partner ports), supported	Yes
Device replacement without swap medium	Yes
Send cycles	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 kbyte
Outputs, max.	16 kbyte
User data per address area, max.	2 kbyte
User data consistency, max.	256 byte
PROFINET CBA	
acyclic transmission	Yes
Cyclic transmission	Yes
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, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Keep-alive function, supported	Yes
4th interface	
Type of interface	PROFINET
Max. no. of simultaneously operable CPs	1 ; 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
Integrated switch	Yes
Number of ports	3
Automatic detection of transmission speed	Yes ; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes

Media redundancy	
supported	Yes
Switchover time on line break, typically	200 ms
Number of stations in the ring, max.	50
Change of IP address at runtime, supported	Yes
Number of connection resources	32
Functionality	
PROFINET IO Controller	Yes
PROFINET IO Device	No
PROFINET CBA	Yes
Open IE communication	Yes
Web server	Yes
PROFINET IO Controller	
Services	
PG/OP communication	Yes
Routing	Yes ; S7 routing
S7 communication	Yes
Isochronous mode	Yes
Open IE communication	Yes
Transmission rate, max.	100 Mbit/s
Max. number of connectable IO Devices for RT	256
of which in line, max.	256
Number of IO devices with IRT and the option "high flexibility"	64
of which in line, max.	32
Number of IO Devices with IRT and the option "high performance", max.	64
of which in line, max.	64
IRT, supported	Yes
Prioritized startup supported	Yes
Number of IO Devices, max.	32
Activation/deactivation of IO Devices	Yes
Maximum number of IO devices that can be activated/deactivated at the same time.	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
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.	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, 34962, 34963, 34964, 65532, 65533, 65534, 65535
Isochronous mode	
Isochronous operation (application synchronized up to terminal)	Yes
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
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
S7 communication	
supported	Yes
as server	Yes
as client	Yes
User data per job, max.	64 kbyte ; Depends on which block is used: BSEND/USEND or PUT/GET
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.	65534 byte
Data length, max.	65534 byte
ISO-on-TCP (RFC1006)	Yes
Number of connections, max.	32
Data length, max.	65534 byte
UDP	Yes
Number of connections, max.	32
Data length, max.	1472 byte
Web server	
supported	Yes
Number of HTTP clients	2
User-defined websites	No
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	1000
Data length of all incoming connections master/slave, max.	6800 byte
Data length of all outgoing connections master/slave, max.	6800 byte
Number of device-internal and PROFIBUS interconnections	500

Data length of device-internal und PROFIBUS interconnections, max.	4000 byte
Data length per connection, max.	1400 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.	2000 byte
Data length of all outgoing interconnections, max.	2000 byte
Data length per connection, max.	1400 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.	4800 byte
Data length of all outgoing interconnections, max.	4800 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.	2000 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
Number of additional values	
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.	4000
Process control messages	No
Test commissioning functions	
Status/control	
Status/control variable	Yes
Forcing	
Forcing	No
Status block	Yes
Single step	Yes
Number of breakpoints	20
Diagnostic buffer	
present	Yes
Number of entries, max.	3200
adjustable	Yes
preset	120
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 (older PC systems with Programmable Interrupt Controllers (PIC) are not suitable for WinAC RTX F 2010.)
Multi-processor system	No
Hyper-threading	Yes
Operating systems	
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	ACPI uniprocessor PC, ACPI multiprocessor PC, MPS multiprocessor PC
Windows Vista	No
Windows embedded Standard 7	No
Windows 7	Yes ; Professional, Enterprise, Ultimate (only 32 bits)
Configuration	
Configuration software	
STEP 7	Yes ; As of V5.5 + HW update/S7 F Configuration Pack V5.5 + SP6 + HF1/option package S7 Distributed Safety V5.4 + SP5 or later
programming	
Programming language	
LAD	Yes
FBD	Yes
STL	Yes
SCL	Yes
CFC	Yes
GRAPH	Yes
HiGraph®	Yes
Nesting levels	8
Software libraries	
Easy Motion Control	Yes
Software redundancy	Yes ; As of V1.2, only for operation of WinAC RTX (F) with WinAC RTX (F)
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
Know-how protection	
User program protection/password protection	Yes
Block encryption	No
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
I/O / Options	
I/O devices	none
Printer	No
Weight	
Weight, approx.	100 g ; With packaging
Status	Jul 17, 2012