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Data sheet 6ES7671-0RC08-0YA0

SIMATIC WINAC RTX 2010, SINGLE LICENSE F. 1 INSTALL., R-SW, SW AND DOCU. ON DVD, LICENSE KEY ON USB STICK, CLASS A, 3 LANGUAGES (G,E,F), EXECUTABLE UNDER WINDOWS XP SP2, SP3 OR WINDOWS 7 32 BIT, INCL. INTERVALZERO RTX, REFERENCE-HW: SIMATIC PC

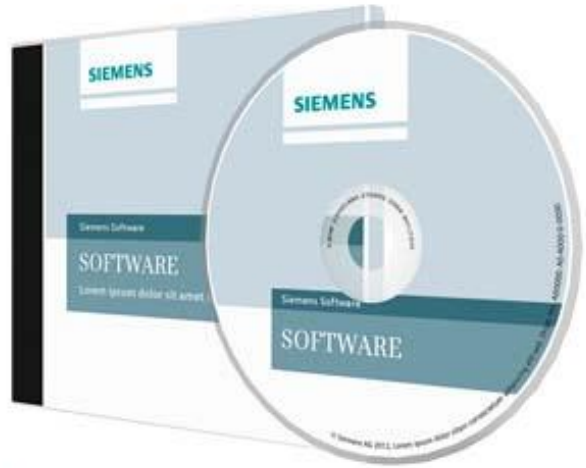

Figure similar

General information	
Firmware version	V4.6
Engineering with	
• Programming package	STEP 7 V5.5 or higher / iMap V3.0 SP1; STEP 7 in TIA Portal V13 or higher

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; Typical
for fixed point arithmetic, typ.	0.003 µs; Typical
for floating point arithmetic, typ.	0.004 µs; Typical
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
• 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 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	
— can be set	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes

• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	
• Number	2 048
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	0
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 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.	61 440 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
— PROFINET interface, inputs	16 kbyte
— PROFINET interface, 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	
• 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	2; 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
Physics	RS 485 / PROFIBUS
Isolated	Yes

Number of simultaneously operable CPs, max.	1
Power supply to interface (15 to 30 V DC), max.	does not exist
Functionality	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No
DP master	
• Number of connections, max.	8
• Transmission rate, max.	12 Mbit/s
• 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 5613-A3, CP 5603, CP 5623
Physics	RS 485 / PROFIBUS
Isolated	Yes
Number of simultaneously operable CPs, max.	4
Functionality	
• MPI	No
• PROFIBUS DP master	Yes
• PROFIBUS DP slave	No

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
— 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
Physics	Ethernet
Isolated	Yes
Number of simultaneously operable CPs, max.	1; Intel Pro/1000 (Intel 82571EB, 82573L, 82574L, 82541PI; non-shared IRQ required); Intel i210T; integrated IE interface SIMATIC PC IPC4x7C, IPC6x7C, IPC8x7C, IPC2x7D, IPC4x7D, IPC6x7D, IPC8x7D, IPC547E
automatic detection of transmission rate	Yes; 10/100 Mbit/s
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• Number of ports	1
• integrated switch	No
Media redundancy	
• supported	No

Functionality	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
PROFINET IO Controller	
• Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— S7 communication	Yes
— Isochronous mode	No
— Open IE communication	Yes
— 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.	256 byte
PROFINET CBA	
• acyclic transmission	Yes
• cyclic transmission	Yes
SIMATIC communication	
• Number of connections, max.	16
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, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535
• Keep-alive function, supported	Yes

4. Interface	
Interface type	PROFINET
Physics	Ethernet
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
Change of IP address at runtime, supported	Yes
Interface types	
• Number of ports	3
• integrated switch	Yes
Media redundancy	
• supported	Yes
• Switchover time on line break, typ.	200 ms
• Number of stations in the ring, max.	50
Functionality	
• PROFINET IO Controller	Yes
• PROFINET IO Device	No
• PROFINET CBA	Yes
• Open IE communication	Yes
• Web server	Yes
PROFINET IO Controller	
• Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— S7 communication	Yes
— Isochronous mode	Yes
— Open IE communication	Yes
— IRT	Yes
— Prioritized startup	Yes
— Number of IO devices with prioritized startup, max.	32
— Number of connectable IO Devices, max.	256
— 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
— User data per address area, max.	2 kbyte
— User data consistency, max.	256 byte
SIMATIC communication	
• Number of connections, max.	32
Open IE communication	
• 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; when using BSEND/USEND
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
• 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	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 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
— 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
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
— Hyper-threading	Yes
Lifetime of module	
• Main memory, min.	1 Gbyte; WES7: 2 GB
• Required memory on hard disk	100 Mbyte
Operating systems	
pre-installed operating system	
• Windows NT 4.0	No
• Windows 2000	No
• Windows Vista	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 7	Yes; Professional, Enterprise, Ultimate (only 32 bits)
• Windows Embedded Standard 7	Yes; With delivery image of SIMATIC PC (only 32-bit)
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
• 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

Peripherals/Options

Peripherals	none
• Printer	No

Weights

Weight, approx.	100 g; With packaging

last modified: 10/28/2016