

Overview

**SIMATIC PCS 7 AS mEC RTX**

The SIMATIC PCS 7 AS mEC RTX equipped with a WinAC RTX software controller is a rugged automation system in compact S7-300 format, and is designed for the lower and medium performance ranges of SIMATIC PCS 7.

The SIMATIC PCS 7 AS mEC RTX is suitable for maintenance-free 24-hour continuous operation at ambient temperatures between 0 and 50 °C. Since it works without fans or rotating storage media, it is relatively insensitive to vibration and shock.

A particular advantage for users is the centralized expandability by means of adding up to eight S7-300 I/O modules on the same mounting rail. As a result, controller and I/Os are merged into a low-cost compact unit.

Application

As a result of its exceptional physical properties, small dimensions, and centralized expandability, the SIMATIC PCS 7 AS mEC RTX automation system is particularly suitable for small applications at plant level and as OEM products, e.g. in package units.

Design

The SIMATIC PCS 7 AS mEC RTX automation system is based on a system-specific SIMATIC S7 modular embedded controller EC31 with the following configuration:

- 1.2 GHz Intel Core Duo processor
- 1 GB RAM
- Integrated Ethernet interface 10/100 Mbps (1 port), can be used for connection to the SIMATIC PCS 7 plant bus
- Integral PROFINET interface 10/100 Mbit/s (2 ports)
- 2 USB interfaces
- 1 slot for multimedia card
- LEDs for status and error
- 4 GB flash memory with the following pre-installed software:
 - Windows Embedded Standard 2009 operating system
 - WinAC RTX 2010 controller software
- AS Runtime license for 100 POs



SIMATIC PCS 7 AS mEC RTX with S7-300 I/O modules

The SIMATIC PCS 7 AS mEC RTX can be mounted together with up to 8 S7-300 I/O modules on a horizontal DIN rail. The I/O modules are positioned on the right of the automation system.

The following S7-300 I/O modules can be used together with the SIMATIC PCS 7 AS mEC RTX:

Name		Article number
SM 321	DI 16, 24 V DC	6ES7321-1BH02-0AA0
	DI 32, 24 V DC	6ES7321-1BL00-0AA0
	DI 16, 24 to 48 V DC	6ES7321-1CH00-0AA0
	DI 16, 48 to 125 V DC	6ES7321-1CH20-0AA0
	DI 8, 120/230 V AC	6ES7321-1FF01-0AA0
	DI 16, 120/230 V AC	6ES7321-1FH00-0AA0
	DI 16, 24 V DC, for isochronous mode; diagnostics/hardware interrupt	6ES7321-7BH01-0AB0
SM 322	DO 8, 24 V DC, 2 A	6ES7322-1BF01-0AA0
	DO 16 x 24 V DC / 0.5 A	6ES7322-1BH01-0AA0
	DO 32 x 24 V DC / 0.5 A	6ES7322-1BL00-0AA0
	DO 16, 120/230 V AC, 1 A	6ES7322-1FH00-0AA0
	DO 8, relay contacts, 2 A	6ES7322-1HF01-0AA0
	DO 8, relay contacts, 5 A	6ES7322-1HF10-0AA0
	DO 16, relay contacts	6ES7322-1HH01-0AA0
SM 323	DI 8 / DO 8	6ES7323-1BH01-0AA0
SM 331	AI 8; diagnostics/hardware interrupt	6ES7331-7KF02-0AB0
	AI 8; enhanced resolution 16 bits	6ES7331-7NF00-0AB0
	AI 8; enhanced resolution 16 bits, 4-channel mode	6ES7331-7NF10-0AB0
	AI 8, for thermal resistors	6ES7331-7PF01-0AB0
	AI 8, for thermocouples	6ES7331-7PF11-0AB0
SM 332	AO 4; resolution 11/12 bits; diagnostics interrupt	6ES7332-5HD01-0AB0
	AO 8	6ES7332-5HF00-0AB0
	AO 4; resolution 16 bits	6ES7332-7ND02-0AB0

These I/O modules can be selected in the chapter "Process I/Os", section "ET 200M for SIMATIC PCS 7".

Sensors/actuators integrated via distributed ET 200SP and ET 200M remote I/O stations can be connected via PROFINET IO.

The SIMATIC PCS 7 AS mEC RTX can only be operated with 24 V DC. For example, a PS 305 or PS 307 load power supply can be used (see chapter "Process I/Os", section "ET 200M for SIMATIC PCS 7, Power Supply", page 11/17).

An additional uninterruptible power supply (UPS) permits data retentivity for all process values.

Ordering data	Article No.	Article No.
SM 321 modules with diagnostics capability (IM 153-2 High Feature interface module required) for isolated contacts (supplied with DC voltage)		Digital output modules
16 inputs, 24 V DC Redundancy optional (channel-granular redundancy) - Isolated in groups of 16 - Time stamping in association with IM 153-2 High Feature, accuracy 1 ms, rising or falling edge, can be configured channel-granular - Two short-circuit-proof sensor supplies for 8 channels each - Sensor supply by the module, additional external redundant sensor supply possible - Diagnostics of missing sensor supply for channel group (8 channels) - Diagnostics inside module - Channel-granular wire break monitoring - Front connector required: 20-pin	6ES7321-7BH01-0AB0	SM 322 for DC voltage Suitable for solenoid valves, contactors, indicator lights, etc.
16 inputs, NAMUR Redundancy optional (channel-granular redundancy) - Isolated in groups of 8 - Time stamping in association with IM 153-2 High Feature, accuracy 10 ms, rising or falling edge, can be configured channel-granular - Two sensor supplies (8.2 V DC or 18 V DC each) - Connection of NAMUR sensors or contacts with resistor circuit - Pulse stretching - Channel-granular diagnostics (short-circuit, open-circuit, chatter monitoring, discrepancy with changeover contacts) - Diagnostics inside module - Front connector required: 40-pin	6ES7321-7TH00-0AB0	8 outputs, 24 V DC / 2 A Redundancy optional (channel-granular redundancy) - Isolated in groups of 4 - Front connector required: 20-pin
16 inputs, 24 to 125 V DC - Isolated in groups of 16 - Time stamping in association with IM 153-2 High Feature, accuracy 1 ms, rising or falling edge, can be configured channel-granular - Diagnostics inside module - Channel-granular wire break monitoring - Front connector required: 40-pin	6ES7321-7EH00-0AB0	16 outputs, 24 V DC, 0.5 A - Isolated in groups of 8 - Front connector required: 20-pin
		16 outputs, 24 V DC / 0.5 A, high speed - Isolated in groups of 8 - Output delay max. 0.2 ms - Front connector required: 20-pin
		32 outputs, 24 V DC / 0.5 A Redundancy optional (module-granular redundancy) - Isolated in groups of 8 - Front connector required: 40-pin
		8 outputs, 48 ... 125 V DC / 1.5 A - Isolated in groups of 4 - Front connector required: 20-pin
		64 outputs, 24 V DC, 0.3 A, source output Isolated in groups of 16 Note: 2 connection cables 6ES7392-4B...0-0AA0 and 2 terminal blocks 6ES7392-1.N00-0AA0 required per module.
		64 outputs, 24 V DC, 0.3 A, sink output Isolated in groups of 16 Note: 2 connection cables 6ES7392-4...0-0AA0 and 2 terminal blocks 6ES7392-1.N00-0AA0 required per module.
		S7-300 cable for 64-channel modules; 2 units 1 m 2.5 m 5 m
		Terminal block for 64-channel modules; 2 units - With screw contacts - With spring-loaded contacts
		6ES7322-1BF01-0AA0 6ES7322-1BH01-0AA0 6ES7322-1BH10-0AA0 6ES7322-1BL00-0AA0 6ES7322-1CF00-0AA0 6ES7322-1BP00-0AA0 6ES7322-1BP50-0AA0 6ES7392-4BB00-0AA0 6ES7392-4BC50-0AA0 6ES7392-4BF00-0AA0 6ES7392-1AN00-0AA0 6ES7392-1BN00-0AA0