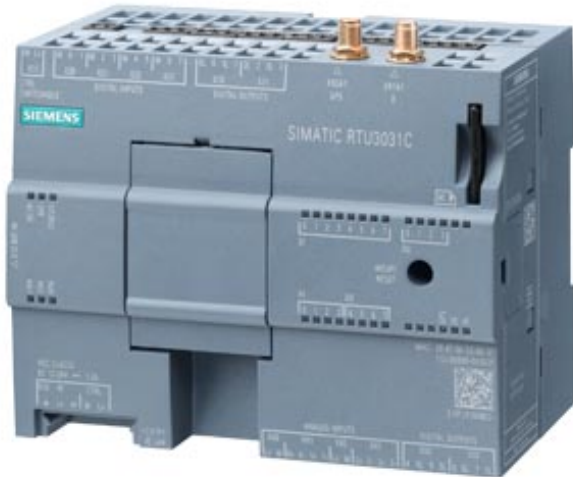


### Product type designation

### RTU3031C

SIMATIC RTU3031C compact low-power RTU; Battery or solar-operated; connection ext. power supply 10.8 V to 28.8 V DC; integrated UMTS modem; GPS; Connection to Telecontrol Server Basic DNP3, IEC 60870-5-104 and SINAUT ST7 protocol; onboard I/Os: 8 DI, 8 DQ, 4 AI; FTP client; Ethernet port, configuration / diagnostics via web server, time-of-day synchronization, text message, email, SD card slot, observe national approvals!



### Operating mode

Standby mode (Sleep mode), Actualization mode, Communication mode

### Transfer rate

#### Transfer rate

- |                           |                   |
|---------------------------|-------------------|
| • for Industrial Ethernet | 10 ... 100 Mbit/s |
| • for GPRS transmission   |                   |
| — with downlink / maximum | 85.6 kbit/s       |
| — with uplink / maximum   | 107 kbit/s        |
| • with UMTS transmission  |                   |
| — with downlink / maximum | 21 Mbit/s         |
| — with uplink / maximum   | 5.76 Mbit/s       |

### Interfaces

#### Number of interfaces / acc. to Industrial Ethernet

1

#### Number of electrical connections

- |  |   |
|--|---|
| • at the 1st interface / acc. to Industrial Ethernet | 1 |
| • for external antenna(s)                            | 2 |
| • for power supply                                   | 1 |

Number of slots	
• for SIM cards	1
• for memory cards	1
Type of electrical connection	
• at the 1st interface / acc. to Industrial Ethernet	RJ45 port
Type of electrical connection	
• for external antenna(s)	SMA socket (50 ohms)
• for power supply	5-pole plugable terminal block
Type of antenna	
• at port 2 / connectable	Active GPS antenna
Slot version	
• for SIM card	Mini SIM card, with adapter Micro SIM card also
• of the memory card	SD 1.0, SD 1.1, SDHC, Siemens SMC
Storage capacity / of the memory card / maximum	32 Gbyte
design of the removable storage / C-PLUG	No

### Signal inputs/outputs

Number of electrical connections / for digital input signals	8
Type of electrical connection / for digital input signals	pluggable screw terminal block
Digital input version	Suitable for open-drain transistor or switch, 2-wire-technique
Number of electrical connections / as counter inputs / for digital input signals	2
Pulse duration / at counter input / minimum	0.1 ms
Pulse frequency / at counter input / maximum	5000 Hz
Number of electrical connections / for digital output signals	8
Type of electrical connection / for digital output signals	pluggable screw terminal block
Digital output version	4DO bistable relay, 2-wire technology 4DO solid-state relay
Output current / at digital output	300 mA; Limiting continuous current, with solid-state relays 60 mA
Number of analog inputs / Integrated	4
Connector type / at the analog input	pluggable screw terminal block
Type of analog input	2-/3-/4-wire-technique
Product function / parameterizable analog inputs	Yes; Current 0/4..20mA, Voltage 0..5/10V, Temperature (Pt1000) -80..+140°C
A/D resolution / at the analog input	12 bit

### Wireless technology

Type of mobile wireless service	
• is supported / SMS	Yes
• is supported / GPRS	Yes
• Note	GPRS (Multislot Class 10)
Type of mobile network / is supported	
• GSM	Yes

• UMTS	Yes
• LTE	No
Operating frequency / for GSM transmission	850 MHz, 900 MHz, 1800 MHz, 1900 MHz
Operating frequency / with UMTS transmission	900 MHz, 2100 MHz

#### Supply voltage, current consumption, power loss

Type of voltage / of the supply voltage	DC
Supply voltage / external / at DC	12 ... 24 V
Supply voltage / external / at DC / rated value	10.8 ... 28.8 V
Type of output voltage / for the supply of external devices	DC 12 V or 24 V
Supply voltage / for GPS antenna / maximum	3.8 V; Nominal 3.8 V (3.575 V @5 mA, 3.35 V @ 10 mA, 3.125 V @ 15 mA)
Consumed current / Note	without connected consumers
Consumed current	
• from external supply voltage / at 24 V DC	
— in standby mode / typical	14 mA
— in update mode / typical	35 mA
— in communication mode / typical	83 mA
• with battery operation / at 7.2 V DC	
— in standby mode / typical	0.28 mA
— in update mode / typical	71 mA
— in communication mode / typical	208 mA
Output current / for GPS antenna / maximum	15 mA
Power loss [W]	without connected consumers
Power loss [W] / with external supply voltage / at 24 V DC	
• in standby mode / typical	0.34 W
• in update mode / typical	0.85 W
• in communication mode / typical	2 W
Power loss [W] / with battery operation / at 7.2 V DC	
• in standby mode / typical	0.002 W
• in update mode / typical	0.51 W
• in communication mode / typical	1.5 W

#### Ambient conditions

Ambient temperature	
• for vertical installation / during operation	-40 ... +60 °C
• for horizontally arranged busbars / during operation	-40 ... +70 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Relative humidity	

<ul style="list-style-type: none"> <li>• at 30 °C / without condensation / during operation / maximum</li> </ul>	95 %
Protection class IP	IP20; IP68 with protective housing (see accessories)

### Design, dimensions and weights

Module format	Compact module
Width	130 mm
Height	100 mm
Depth	75 mm
Net weight	0.37 kg
Mounting type	
<ul style="list-style-type: none"> <li>• 35 mm DIN rail mounting</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• wall mounting</li> </ul>	Yes

### Product features, product functions, product components / general

Product function	
<ul style="list-style-type: none"> <li>• DynDNS client</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• no-ip.com client</li> </ul>	Yes

### Performance data

Number of users/telephone numbers/email addresses / definable / maximum	20
Number of user groups / definable / maximum	10
Number of program block types	44
Number of configurable program blocks	48
Number of digital bit memories / maximum	40
Number of analog bit memories / maximum	24

### Performance data / IT functions

Number of possible connections	
<ul style="list-style-type: none"> <li>• as client / by means of FTP / maximum</li> </ul>	1
Number of entries / in the FTP buffer / maximum	12
Number of possible connections	
<ul style="list-style-type: none"> <li>• as server / by means of HTTP / maximum</li> </ul>	2
<ul style="list-style-type: none"> <li>• as server / by means of HTTPS / maximum</li> </ul>	2; http and https can be combined (max. number of 2 connections cannot be exceeded). Max. one connection via https is possible on the mobile wireless interface.
<ul style="list-style-type: none"> <li>• as e-mail client / maximum</li> </ul>	1
Number of free texts / for e-mails and SMS / maximum	20
Number of characters / per free text for emails or SMS / maximum	160
Number of entries / in the e-mail buffer / maximum	12

### Performance data / telecontrol

Suitability for use	
<ul style="list-style-type: none"> <li>• Node station</li> </ul>	No

<ul style="list-style-type: none"> <li>• substation</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• TIM control center</li> </ul>	No
Control center connection	IEC 60870-5-104, DNP3-capable control stations, SINAUT ST7cc/sc, TeleControl Server Basic
<ul style="list-style-type: none"> <li>• by means of a permanent connection</li> <li>• by means of demand-oriented connection</li> </ul>	supported supported
Protocol / is supported	
<ul style="list-style-type: none"> <li>• DNP3</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• IEC 60870-5</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SINAUT ST1 protocol</li> </ul>	No
<ul style="list-style-type: none"> <li>• SINAUT ST7 protocol</li> </ul>	Yes
Product function / data buffering if connection is aborted	Yes
Amount of data / as user data per station / in telecontrol mode / maximum	256 Kibyte
Product feature / Buffered message frame memory	Yes

#### Performance data / teleservice

Diagnostics function / online diagnostics with SIMATIC STEP 7	No
Product function	
<ul style="list-style-type: none"> <li>• program download with SIMATIC STEP 7</li> </ul>	No
<ul style="list-style-type: none"> <li>• Remote firmware update</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• remote configuration</li> </ul>	Yes

#### Product functions / management, configuration, engineering

Configuration software	
<ul style="list-style-type: none"> <li>• required</li> </ul>	No, configuration by using the integrated webserver
Product function / gateway / for SIMATIC PDM	
<ul style="list-style-type: none"> <li>• with Modbus TCP</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• with HART IP protocol</li> </ul>	Yes

#### Product functions / Diagnostics

Product function / Web-based diagnostics	Yes
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#### Product functions / Security

Operating mode / Virtual Private Network (VPN)	Yes
Product function / with VPN connection	OpenVPN
Type of authentication procedure / with VPN connection	certificate based
Type of authentication / with Virtual Private Network / PSK	No
Type of hashing algorithms / with VPN connection	SHA-256
Number of possible connections / with VPN connection	2; one simultaneous productive connection only
Product function	

• password protection for Web applications	Yes
• password protection for teleservice access	Yes
• password protection for VPN	Yes
• encrypted data transmission	Yes
• switch-off of non-required services	Yes
• SysLog	Yes

#### Product functions / time

Protocol / is supported	
• NTP	Yes
Product component / Hardware real-time clock	Yes
Product feature / Hardware real-time clock w. battery backup	Yes
Accuracy / of the hardware real-time clock / per day / maximum	1.8 s
time synchronization	
• from NTP-server	Yes
• from GPS-signal	Yes
• from control center	Yes
• from mobile network provider	Yes
• PC	Yes
• manual setting	Yes

#### Product functions / position detection

Product function	
• position detection with GPS	Yes
• pass on position data	Yes

#### Further information / Internet-Links

Internet-Link	
• to website: Industrial communication	<a href="http://www.siemens.com/simatic-net">http://www.siemens.com/simatic-net</a>
• to website: Industry Mall	<a href="https://mall.industry.siemens.com">https://mall.industry.siemens.com</a>
• to website: Information and Download Center	<a href="http://www.siemens.com/industry/infocenter">http://www.siemens.com/industry/infocenter</a>
• to website: Image database	<a href="http://automation.siemens.com/bilddb">http://automation.siemens.com/bilddb</a>
• to website: CAx Download Manager	<a href="http://www.siemens.com/cax">http://www.siemens.com/cax</a>
• to website: Industry Online Support	<a href="https://support.industry.siemens.com">https://support.industry.siemens.com</a>

#### Security information

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Security information

Siemens provides products and solutions with industrial security functions that support the secure operation of plants, solutions, machines, equipment and/or networks. They are important components in a holistic industrial security concept. With this in mind, Siemens' products and solutions undergo continuous development. Siemens recommends strongly that you regularly check for product updates. For the secure operation of Siemens products and solutions, it is necessary to take suitable preventive action (e.g. cell protection concept) and integrate each component into a holistic, state-of-the-art industrial security concept. Third-party products that may be in use should also be considered. For more information about industrial security, visit <http://www.siemens.com/industrialsecurity>. To stay informed about product updates as they occur, sign up for a product-specific newsletter. For more information, visit <http://support.automation.siemens.com>. (V3.4)

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