



SIMATIC RTU3051C compact low-power RTU; battery or solar-operated; connection external power supply 10.8 V to 28.8 V DC; integrated modem for LTE-M/NB-IoTv2; GNSS; connection to TeleControl Server Basic; loadable protocols: DNP3, IEC 60870-5-104, SINAUT ST7 or MQTT; onboard I/Os: 8 DI, 8 DO, 4 AI; FTP client; Ethernet port, configuration/diagnostics via web server, time-of-day synchronization, SMS, 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 | 264 kbit/s        |
| — with uplink / maximum   | 210 kbit/s        |
| • for LTE-M transmission  |                   |
| — with downlink / maximum | 588 kbit/s        |
| — with uplink / maximum   | 1000 kbit/s       |
| • for NB-IoT transmission |                   |
| — with downlink / maximum | 120 kbit/s        |
| — with uplink / maximum   | 160 kbit/s        |

### interfaces

number of interfaces / according to Industrial Ethernet

1

number of electrical connections

- |   |   |
|---|---|
| • at the 1st interface / according 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 / according 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 connection 1 / connectable | mobile wireless antenna |
| • at connection 2 / connectable | active GNSS 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
<b>wireless technology</b>	
type of mobile wireless service / is supported	
• SMS	Yes
• GPRS	Yes
•	GPRS (Multislot Class 10)
• LTE-M	Yes
• NB-IoT	Yes
type of wireless network / is supported	
• GSM	Yes
operating frequency / for GSM transmission	850 MHz, 900 MHz, 1800 MHz, 1900 MHz
operating frequency / for LTE-M transmission	band 1 (2100 MHz), band 2 (1900 MHz), band 3 (1800 MHz), band 4 (1700 MHz), band 5 (850 MHz), band 8 (900 MHz), band 12 (700 MHz), band 13 (700 MHz), band 18 (850 MHz), band 19 (850 MHz), band 20 (800 MHz), band 26 (850 MHz), band 28 (700 MHz)
operating frequency / for NB-IoT transmission	band 1 (2100 MHz), band 2 (1900 MHz), band 3 (1800 MHz), band 5 (850 MHz), band 8 (900 MHz), band 12 (700 MHz), band 13 (700 MHz), band 18 (850 MHz), band 19 (850 MHz), band 20 (800 MHz), band 26 (800 MHz), band 28 (700 MHz)
<b>supply voltage, current consumption, power loss</b>	
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
<b>ambient conditions</b>	
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)
<b>design, dimensions and weights</b>	
module format	Compact module
width	130 mm
height	100 mm
depth	75 mm
net weight	0.37 kg
fastening method	
<ul style="list-style-type: none"> <li>35 mm top hat DIN rail mounting</li> </ul>	Yes
<ul style="list-style-type: none"> <li>wall mounting</li> </ul>	Yes
<b>product features, product functions, product components / general</b>	
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
<b>product functions / cloud connectivity</b>	
protocol / is supported	
<ul style="list-style-type: none"> <li>Message Queuing Telemetry Transport (MQTT)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>HTTP</li> </ul>	Yes
product function / for cloud connectivity	
<ul style="list-style-type: none"> <li>trigger management</li> </ul>	Yes
<ul style="list-style-type: none"> <li>time stamping</li> </ul>	Yes
product feature / for cloud connectivity / buffered message frame memory	Yes
<b>performance data</b>	
number of users/telephone numbers/email addresses / definable / maximum	20
number of user groups / definable / maximum	10
number of program block types	46
number of configurable program blocks	48
number of digital bit memories / maximum	48
number of analog bit memories / maximum	24
<b>performance data / IT functions</b>	
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 email client / maximum</li> </ul>	1
number of free texts / for emails and SMS / maximum	20
number of characters / per free text for emails or SMS / maximum	160
number of entries / in the email buffer / maximum	12
<b>performance data / telecontrol</b>	
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 centers, SINAUT ST7cc/sc, ST7 ScadaConnect, TeleControl Server Basic
<ul style="list-style-type: none"> <li>by means of a permanent connection</li> </ul>	supported
<ul style="list-style-type: none"> <li>by means of demand-oriented connection</li> </ul>	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; number of telegrams for: IEC 60870: approx. 5,000, DNP3: approx. 10,900, SINAUT ST7: approx. 7,700, TeleControl Server Basic: approx. 10.900
data volume / as user data per station / in telecontrol mode / maximum	256 Kibyte
product feature / buffered message frame memory	Yes
<b>performance data / teleservice</b>	
diagnostics function / online diagnostics with SIMATIC STEP 7	No
product function	
• program download with SIMATIC STEP 7	No
• remote firmware update	Yes
• remote configuration	Yes
<b>product functions / management, configuration, engineering</b>	
configuration software	
• required	No, configuration by using the integrated webserver
product function / gateway / for SIMATIC PDM	
• with Modbus TCP	Yes
• with HART-IP protocol	Yes
<b>product functions / diagnostics</b>	
product function / web-based diagnostics	Yes
<b>product functions / security</b>	
operating mode / Virtual Private Network (VPN)	Yes; OpenVPN client
product function / with VPN connection	OpenVPN
type of encryption algorithms / with VPN connection	AES-128, AES-256
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
<b>product functions / time</b>	
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
<b>product functions / position detection</b>	
product function	
• position detection with GPS	Yes
• pass on position data	Yes
<b>standards, specifications, approvals</b>	
reference code	
• according to IEC 81346-2:2019	KEB
<b>further information / internet links</b>	
internet link	
• to web page: selection aid TIA Selection Tool	<a href="https://www.siemens.com/tstcloud">https://www.siemens.com/tstcloud</a>
• to website: Industrial communication	<a href="https://www.siemens.com/simatic-net">https://www.siemens.com/simatic-net</a>
• to web page: SiePortal	<a href="https://sieportal.siemens.com/">https://sieportal.siemens.com/</a>
• to website: Image database	<a href="https://www.automation.siemens.com/bilddb">https://www.automation.siemens.com/bilddb</a>
• to website: CAX-Download-Manager	<a href="https://siemens.com/cax">https://siemens.com/cax</a>

## security information

### security information

Siemens provides products and solutions with industrial cybersecurity functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial cybersecurity measures that may be implemented, please visit [www.siemens.com/cybersecurity-industry](http://www.siemens.com/cybersecurity-industry). Siemens' products and solutions undergo continuous development to make them more secure. Siemens strongly recommends that product updates are applied as soon as they are available and that the latest product versions are used. Use of product versions that are no longer supported, and failure to apply the latest updates may increase customer's exposure to cyber threats. To stay informed about product updates, subscribe to the Siemens Industrial Cybersecurity RSS Feed under <https://www.siemens.com/cert>. (V4.7)

## Approvals / Certificates

### General Product Approval



last modified:

12/8/2024 