Overview

The devices of the RTU3000C series are compact telecontrol stations (RTU: Remote Terminal Unit) for applications with their own power supply. They are particularly well suited for monitoring and control of remote stations that are not connected to a power supply network and can collect data of connected sensors with time stamp independently, preprocess the data, and transfer it to a control center. The RTU3000C is supplied with power by a battery, an accumulator or a solar panel or by a 12 … 24 V DC power supply unit.

The devices of the RTU3000C series are characterized by the following properties:

- Worldwide data exchange between a remote measuring point and a control center via public or private networks (WAN), e.g. mobile radio networks, Internet.
- Communication with a control center (telecontrol center) with the help of the DNP3, IEC 60870-5-104 or SINAUT ST7 telecontrol protocols
- Connection to a control center with TeleControl Server Basic
- Acquisition of process signals, alarms, count pulses, measured values or output of switching commands by means of integrated inputs as well as digital inputs and outputs
- Pre-processing of the acquired signals by the RTU with 38 different function blocks
- FTP client functionality for transmitting data to an FTP server
- Time synchronization
  - on the basis of NTP (**N**etwork **T**ime **P**rotocol)
  - by means of the partner in the control center
- Automatic alarm transmission per email or text message
- Use as data logger by saving the process values to SD card
- Data buffering in the substations in the event of connection failures
- LED signaling for fast diagnostics
- Compact industrial enclosure in S7-1200 design for mounting on a standard DIN rail
- Use in harsh environment thanks to extended temperature range from -40 to +70 °C and IP68 protection thanks to optional protective enclosure
- Fast commissioning thanks to easy configuration using the integrated web server

Additionally for RTU3030C:

- Integrated UMTS modem for global wireless data exchange between a remote measuring point and a control center based on the mobile radio standard UMTS (**U**niversal **M**obile **T**elecommunications**S**ystem) with data transmission rates of up to 42 Mbps in the downlink (HSDPA) and 5.76 Mbps in the uplink (HSUPA)
- UMTS operation with fixed or dynamic IP addresses, depending on telecommunication contract
- Time synchronization over the mobile radio network:
- Wake-up of station from sleep mode by means of text message or call

Product versions

Different product versions are offered for the various applications:

- **SIMATIC RTU3010C**
  Compact RTU for variable power supply using batteries, rechargeable batteries, solar or 10.8 V DC to 28.8 V DC for connection to external industry routers; connection to control center via TeleControl Basic, DNP3, IEC60870-5-104 or SINAUT ST7 protocols, on-board I/O (8 DI, 4 DQ, 4 AI), configuration and diagnostics per web interface
- **SIMATIC RTU3030C**
  Compact RTU for variable power supply using batteries, rechargeable batteries, solar or 10.8 V DC to 28.8 V DC with integrated UMTS modem; connection to control center via TeleControl Basic, DNP3, IEC60870-5-104 and SINAUT ST7 protocols, on-board I/O (8 DI, 4 DQ, 4 AI), configuration and diagnostics per web interface; note country-specific approvals!

In conjunction with the "TeleControl Server Basic" control room software, the RTU3000C forms a telecontrol system with additional properties:

- Connection of up to 5 000 telecontrol stations to the control center via OPC UA
- Central status monitoring of the substations
- No special provider services required for fixed IP addresses
- Wireless teleservice access to the substations
- Wake-up of substations by calling or text message

Benefits

- **Flexible location of use**
  A flexible power supply concept allows for use of the RTU3000C at different measuring points in a globally distributed network, independent of an existing power supply network.
- **Rugged hardware**
  The rugged hardware enables reliable operation even in tough environments with increased temperature range (-40 °C to +70 °C).
- **Flexible connection to control centers**
  Thanks to reloadable telecontrol protocols, different applications and connection options to different control centers are supported in one device.
- **Fast and flexible data communication**
  A time-driven and event-driven communication ensures that the operating personnel is informed immediately and reliably about alarms, statuses and values in the process.
- **Easy and cost-efficient engineering**
  The integrated web server enables easy configuration by means of the standard web browser without additional engineering tool.
- **Fully automatic time stamp**
  To enable subsequent and correct archiving of process data in the control system, all data frames are given a time stamp at their place of origin.

- **Automatic buffering of process values**
  The data is buffered in the substations to prevent the loss of data in case of connection failures.
- **Secure data transmission**
  Use of the VPN technology OpenVPN (RTU3030C only) and encrypted emails ensures secure data transmission. For the RTU3010C, an industrial router that can be controlled via the RTU, e.g. SCALANCE M, must be used for encryption by means of VPN connections.
  The RTUs also support secure HTTPS access to the web server via the local Ethernet interface and remotely, e.g. via mobile radio. In addition, the FTP file transfer can also be carried out with encryption.
- **Time is not lost in case of a power outage**
  A buffered real time clock ensures that the correct time is available even after a power outage.
- **Savings on travel and maintenance**
  Thanks to web-based management, configuring, diagnostics, control and monitoring can easily be performed remotely.

Application

The telecontrol stations of the RTU3000C family can be used as a substation (Remote Terminal Unit) in telecontrol applications. Typical applications include the acquisition of measured values in plants that are spread over large geographical areas (e.g. level monitoring of water tanks in the water/wastewater industry).

- Data exchange and centralized data monitoring for automation systems spread over large geographical areas
- Connection of difficult-to-access external stations without network infrastructure
- Connection of measuring points at locations without power supply infrastructure

These applications can be found in the most diverse industries:

- Water/wastewater treatment plants
  - Detection of leaks or water loss
  - Monitoring of pumping stations, water towers/reservoirs
  - Acquisition and monitoring of level / pressure / flow / temperature
  - Flood protection
- Inventory management – Monitoring of levels in tanks and silos
- Agriculture monitoring – Monitoring of irrigation systems or greenhouses
- Wind power – Wind measurement for dimensioning of wind turbines

Design

The SIMATIC RTU3000C is a compact module in SIMATIC S7-1200 format:

- Rugged, compact plastic enclosure for the temperature range -40 °C to +70 °C
- Easily accessible connection and diagnostics elements
- Easy mounting on a standard DIN rail
- Four plug-in screw terminals for eight digital inputs (pushbutton/switch/relay contacts) of which the first two inputs can be configured as counter inputs.
- Four plug-in screw terminals for four analog inputs: Current / voltage (0/4…20 mA, 0…10 V, 0…5 V) or temperature measurement (Pt1000)
- Two plug-in screw terminals for four digital outputs designed as relay contacts
- The close-loop (12 V or 24 V can be selected) and switchable controller outputs X10/X11 can be used for the supply of sensors and actuators
- 5-pin, plug-in terminal strip for connection of an 12 ... 24 V DC external supply voltage; connection protected against polarity reversal
- Connection socket for battery module (up to six battery modules can be connected)
- RJ45 socket for connection to Industrial Ethernet at 10/100 Mbps
- Pushbutton for the functions wake-up, shutdown, warm restart or reset to factory settings
- Slot for an SD card (Siemens SMC, SD or SDHC)
- Installed temperature sensor for monitoring of temperature inside enclosure

Additionally for RTU3030C:

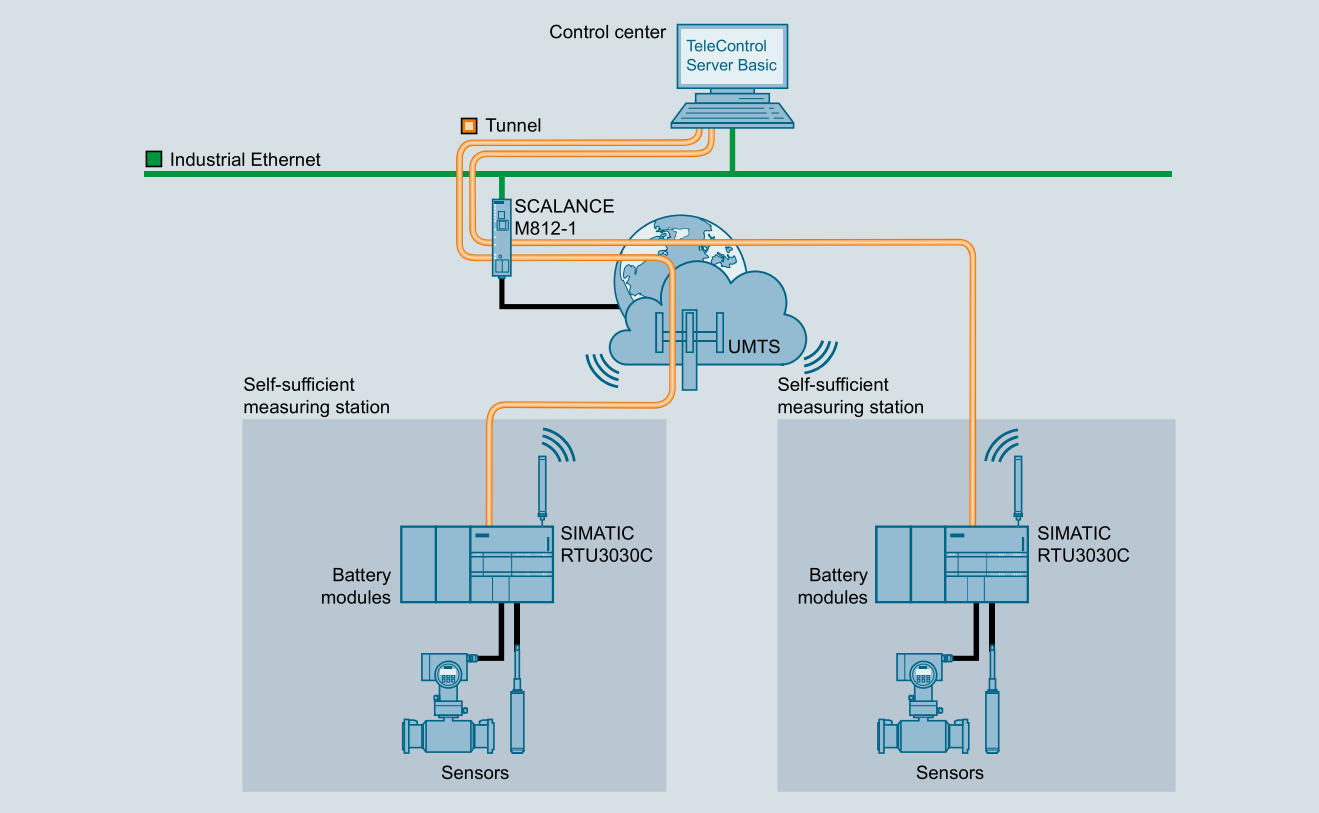
- SMA antenna connection for GSM/GPRS/UMTS antenna
- Slot for a mini SIM card

The telecontrol stations of the RTU3000C family can be used in stand-alone operation. The power supply can take place in independent operation by means of battery / accumulator /solar panel. The optional batteries are connected directly on the left side of the device without additional wiring. The power can also be supplied by a 5-pin terminal strip on the bottom of the module, even in combination with battery modules. The SD card tray is located on the front of the module. Removable screw terminals make for quick module replacement because the connected sensors must not be wired again.

Function

The devices of the RTU3000C family are compact telecontrol stations. They enable connection of remote measuring points to TeleControl Server Basic or another control center and monitoring of these measuring points. To ensure autonomous operation the devices can also switch between four different operating modes:

- **Sleep mode** All inputs and communication functions are turned off so that energy consumption is minimal. Outputs can retain their last value.
- **Update mode** Used to query the inputs and outputs. The query cycle can be configured individually.
- **Communication mode** Mobile wireless connection or connection via LAN interface and external router and communication to the central office are active.
- **Service mode**
  Maintenance work can take place without loss of data.



Connection of the SIMATIC RTU3030C to TeleControl Server Basic

Energy-independent mode

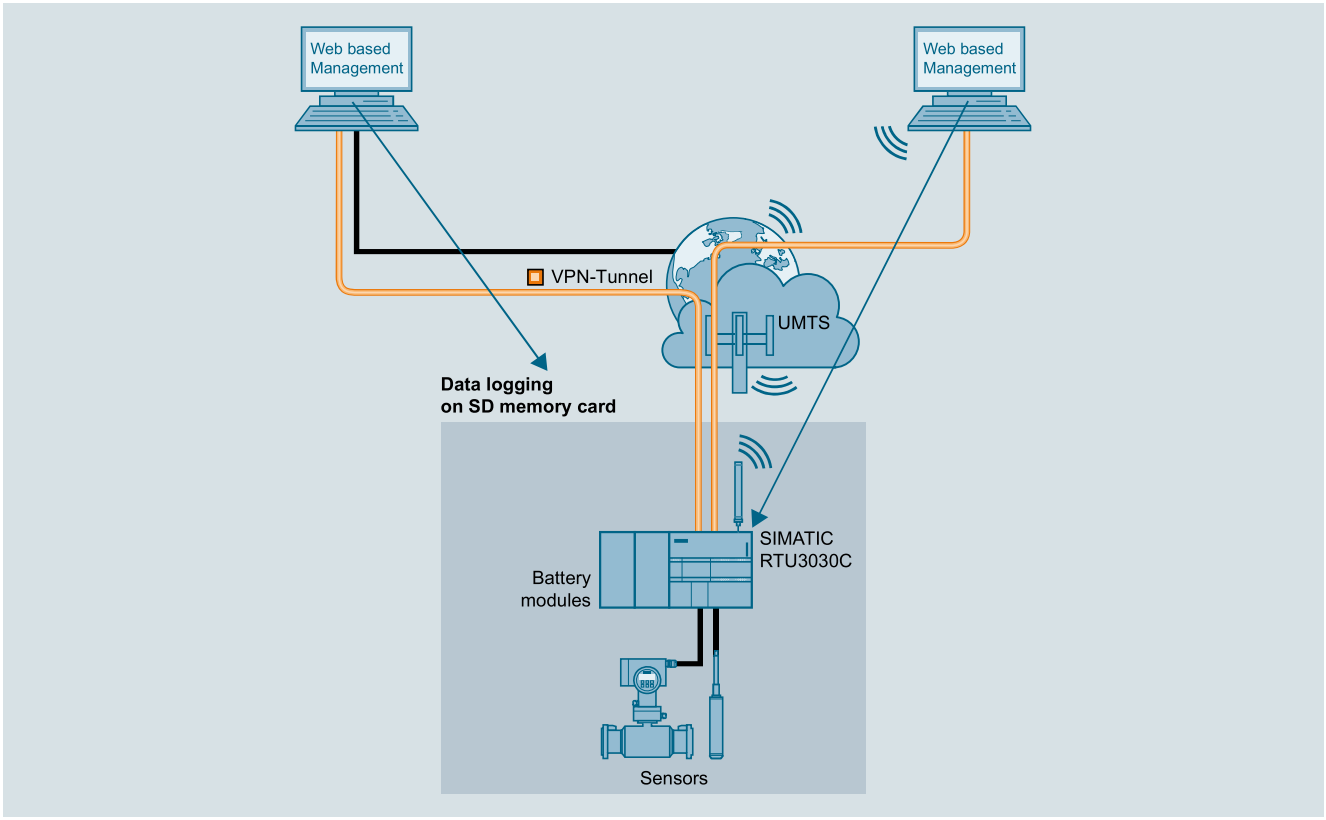
The RTU3000C stations can be operated in energy saving mode. Depending on the communication requirements and the connected type of power supply (e.g. battery, solar accumulator), independent operation can thus be guaranteed for many years to come.

Data backup

Data losses are prevented by the data buffering mechanisms integrated in the product. In the event of a connection failure, time-stamped frames are buffered in the device. When the connection returns, the buffered values are automatically transferred to the control center in the right order.

Data logging

The RTU3000C stations support the backup of process data on SD card. The retentively saved data can be sent cyclically by email and/or FTP or, if necessary, be downloaded directly using web-based management (WBM).



Data logging on SD card

Data point configuration

For data point configuration, the RTUs supports a series of data point types: Digital input, digital output, analog input, counter input. The data points can be configured with little effort using the web pages of the RTU3000C stations. A cyclic and/or event-controller transfer of measured values, setpoints or alarms can thus be implemented in only a few operations.

Data preprocessing

Ready-to-use program blocks enable data preprocessing directly in the RTU. The process data can be linked by means of process blocks for basic control jobs. Use of analog and digital bit memories enables buffering of calculation results.

38 different types are supported in the following groups:

- Blocks for logical functions (e.g. AND, OR)
- Blocks for time functions (e.g. ON and OFF delay, astronomical clock)
- Blocks for analog value functions (e.g. threshold value monitoring)
- Counter blocks
- Blocks for messages (text messages, email)
- Block for FTP file transfer
- Relay blocks (latching relay, pulse relay)
- Blocks for silo volume calculation
- Block for rectangular weir overflow calculation

Time synchronization

The RTUs support time synchronization and therefore ensure that historical data is given the correct time stamp. In addition to using the NTP protocol, you can synchronize the time via the telecontrol center or, in the case of RTU3030C, via the mobile wireless provider.

Alarms sent by email or text message

For timely communication of station statuses to service and maintenance personnel, alarm emails or, in the case of RTU3030C, alarm text messages can be configured. When previously defined events (such as threshold violation) occur, application-specific information is sent automatically by email or SMS (directly or via the connected router).

Telecontrol communication using standard protocols

For communication with the control center, the RTUs support the DNP3, IEC 60870-5-104 and SINAUT ST7 telecontrol protocols. The RTUs act as a DNP3 station or as an IEC slave or, in the case of SINAUT ST7, as a station connected to an ST7 node station, e.g. TIM 1531 IRC or ST7 control center. The RTUs can also be connected to the TeleControl Server Basic (TCSB). TCSB enables a connection to any control center software, e.g. WinCC OA over OPC UA.

Remote maintenance

The RTU3000C stations provide remote maintenance access via WBM for access from the control center. The RTU3030C can be woken from sleep mode via text message or a phone call. When using the "TeleControl Basic" communication protocol, the wake-up text message can be generated in the CMT of TCSB. Alternatively, a wake-up test message can be initiated when SINEMA Remote Connect (V1.3 or higher) is used.

Security mechanisms

Access to the RTU3000C stations requires an authorization. Up to 20 different authorized email addresses or phone numbers can be defined in the WBM. Data is sent through an OpenVPN tunnel (for RTU3030C only) or the secure tunnel of the TeleControl Server Basic. Email messages can be encrypted (support of STARTTLS). FTP uploads can be carried out as encrypted uploads via SSL with FTPS.

Diagnostics

The RTU3000C provides comprehensive diagnostic options for a quick and informative analysis of the station status. Basic diagnostic information, such as the status of the power supply, the communication connection and the inputs and outputs are signaled directly to the RTU by LEDs. The current status of the LEDs can also be retrieved through WBM.

Using the web server, comprehensive information can be retrieved, such as facts about the connection history, buffer status, and the transferred measured values.

Configuration over web server

The integrated web server is accessed locally for diagnostics from a PC or remotely via the mobile wireless interface or Ethernet interface with upstream industrial router. Configuration, firmware update or configuration changes can therefore be performed remotely without additional software thereby saving time and money.

Technical specifications

Article number	**6NH3112-0BA00-0XX0**	**6NH3112-3BA00-0XX0**
Product type designation	RTU3010C	RTU3030C
Operating mode	Standby mode (Sleep mode), Actualization mode, Communication mode	Standby mode (Sleep mode), Actualization mode, Communication mode
Transmission rate		
Transfer rate		
• for Industrial Ethernet	10 ... 100 Mbit/s	10 ... 100 Mbit/s
• for GPRS transmission		
- with downlink maximum		85.6 kbit/s
- with uplink maximum		85.6 kbit/s
• with UMTS transmission		
- with downlink maximum		42 Mbit/s
- with uplink maximum		5.76 Mbit/s
Interfaces		
Number of interfaces acc. to Industrial Ethernet	1	1
Number of electrical connections		
• at the 1st interface acc. to Industrial Ethernet	1	1
• for external antenna(s)		1
• for power supply	1	1
Number of slots		
• for SIM cards		1
• for memory cards	1	1
Type of electrical connection		
• at the 1st interface acc. to Industrial Ethernet	RJ45 port	RJ45 port
• for external antenna(s)		SMA socket (50 ohms)
• for power supply	5-pole plugable terminal block	5-pole plugable terminal block
Type of antenna		
• at port 1 connectable		mobile communications antenna (GSM/UMTS)
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	SD 1.0, SD 1.1, SDHC, Siemens SMC
Storage capacity of the memory card maximum	32 Gibyte	32 Gibyte
design of the removable storage C-PLUG	No	No
Signal-Inputs/outputs		
Number of electrical connections for digital input signals	8	8
Type of electrical connection for digital input signals	pluggable screw terminal block	pluggable screw terminal block
Digital input version	Suitable for open-drain transistor or switch, 2-wire-technique	Suitable for open-drain transistor or switch, 2-wire-technique
Number of electrical connections as counter inputs for digital input signals	2	2
Pulse duration at counter input minimum	0.1 ms	0.1 ms
Pulse frequency at counter input maximum	5 000 Hz	5 000 Hz
Number of electrical connections for digital output signals	4	4
Type of electrical connection for digital output signals	pluggable screw terminal block	pluggable screw terminal block
Digital output version	bistable relay, 2-wire-technique	bistable relay, 2-wire-technique
Output current at digital output	300 mA; Limiting continuous current	300 mA; Limiting continuous current
Number of analog inputs Integrated	4	4
Connector type at the analog input	pluggable screw terminal block	pluggable screw terminal block
Type of analog input	2-/3-/4-wire-technique	2-/3-/4-wire-technique
Product function parameterizable analog inputs	Yes; Current 0/4..20mA, Voltage 0..5/10V, Temperature (Pt1000) -80..+140°C	Yes; Current 0/4..20mA, Voltage 0..5/10V, Temperature (Pt1000) -80..+140°C
A/D resolution at the analog input	12 bit	12 bit

Article number	**6NH3112-0BA00-0XX0**	**6NH3112-3BA00-0XX0**
Product type designation	RTU3010C	RTU3030C
Wireless technology		
Type of mobile wireless service		
• is supported SMS	No	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		Yes
• for GSM transmission 900 MHz		Yes
• for GSM transmission 1800 MHz		Yes
• for GSM transmission 1900 MHz		Yes
• with UMTS transmission 900 MHz		Yes
• with UMTS transmission 2100 MHz		Yes
Supply voltage, current consumption, power loss		
Type of voltage of the supply voltage	DC	DC
Supply voltage external at DC	12 ... 24 V	12 ... 24 V
Supply voltage external at DC rated value	10.8 ... 28.8 V	10.8 ... 28.8 V
Type of output voltage for the supply of external devices	DC 12 V or 24 V	DC 12 V or 24 V
Consumed current Note	without connected consumers	without connected consumers
Consumed current		
• from external supply voltage at 24 V DC		
- in standby mode typical	14 mA	14 mA
- in update mode typical	35 mA	35 mA
- in communication mode typical	55 mA	83 mA
• with battery operation at 7.2 V DC		
- in standby mode typical	0.28 mA	0.28 mA
- in update mode typical	71 mA	71 mA
- in communication mode typical	125 mA	208 mA
Power loss [W] Note	without connected consumers	without connected consumers
Power loss [W] with external supply voltage at 24 V DC		
• in standby mode typical	0.34 W	0.34 W
• in update mode typical	0.85 W	0.85 W
• in communication mode typical	1.25 W	2 W
Power loss [W] with battery operation at 7.2 V DC		
• in standby mode typical	0.002 W	0.002 W
• in update mode typical	0.51 W	0.51 W
• in communication mode typical	0.9 W	1.5 W
Permitted ambient conditions		
Ambient temperature		
• for vertical installation during operation	-40 ... +60 °C	-40 ... +60 °C
• for horizontally arranged busbars during operation	-40 ... +70 °C	-40 ... +70 °C
• during storage	-40 ... +70 °C	-40 ... +70 °C
• during transport	-40 ... +70 °C	-40 ... +70 °C
Relative humidity at 30 °C without condensation during operation maximum	95 %	95 %
Protection class IP	IP20; IP68 with protective housing (see accessories)	IP20; IP68 with protective housing (see accessories)
Design, dimensions and weight		
Module format	Compact module	Compact module
Width	130 mm	130 mm
Height	100 mm	100 mm
Depth	75 mm	75 mm
Net weight	0.34 kg	0.37 kg
Mounting type		
• 35 mm DIN rail mounting	Yes	Yes
• wall mounting	Yes	Yes

SIMATIC RTU3000C

Article number	6NH3112-0BA00-0XX0	6NH3112-3BA00-0XX0
Product type designation	RTU3010C	RTU3030C
Product properties, functions, components general		
Product function		
• Dynamic DNS		Yes
• no-ip.com client		Yes
Performance data		
Number of users email addresses definable maximum	20	
Number of users/telephone numbers/email addresses definable maximum		20
Number of user groups definable maximum	10	10
Number of program block types	37	38
Number of configurable program blocks	32	32
Performance data IT functions		
Number of possible connections		
• as client by means of FTP maximum	1	1
Number of entries in the FTP buffer maximum	12	12
Number of possible connections		
• as server by means of HTTP maximum	2	2
• as server by means of HTTPS maximum	2	2
• as e-mail client maximum	1	1
Number of free texts for e-mails definable by user	20; maximum of 160 characters per user defined text	20; maximum of 160 characters per user defined text
Number of entries in the e-mail buffer maximum	12	12
Performance data telecontrol		
Suitability for use		
• Node station	No	No
• substation	Yes	Yes
• TIM control center	No	No
Control center connection		
• by means of a permanent connection	supported	supported
• by means of demand-oriented connection	supported	supported
Protocol is supported		
• TCP/IP	Yes	Yes
• DNP3	Yes	Yes
• IEC 60870-5	Yes	Yes
• SINAUT ST1 protocol	No	No
• SINAUT ST7 protocol	Yes	Yes
• Modbus RTU	No	No
Product function data buffering if connection is aborted	Yes	Yes
Amount of data as user data per station in telecontrol mode maximum	256 Kibyte	256 Kibyte
Product feature Buffered message frame memory	Yes	Yes
Performance data Teleservice		
Diagnostics function online diagnostics with SIMATIC STEP 7	No	No
Product function		
• program download with SIMATIC STEP 7	No	No
• Remote firmware update	Yes	Yes
• remote configuration	Yes	Yes
Configuration software		
• required	No, configuration by using the integrated webserver	No, configuration by using the integrated webserver
Product functions Diagnosis		
Product function Web-based diagnostics	Yes	Yes

Article number	**6NH3112-0BA00-0XX0**	**6NH3112-3BA00-0XX0**
Product type designation	RTU3010C	RTU3030C
Product functions Security		
Suitability for operation Virtual Private Network	No	Yes
Operating mode Virtual Private Network note		OpenVPN-Client
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-1, SHA-224, SHA-256
Number of possible connections with VPN connection		2; one simultaneous productive connection only
Product function		
• password protection for Web applications	Yes	Yes
• password protection for teleservice access	Yes	Yes
• password protection for VPN		No
• encrypted data transmission	Yes	Yes
• switch-off of non-required services	Yes	Yes
Product functions Time		
Protocol is supported		
• NTP	Yes	Yes
Product component Hardware real-time clock	Yes	Yes
Product feature Hardware real-time clock w. battery backup	Yes	Yes
Accuracy of the hardware real-time clock per day maximum	1.8 s	1.8 s
time synchronization		
• from NTP-server	Yes	Yes
• from control center	Yes	Yes
• from mobile network provider		Yes
• PC	Yes	Yes
• manual setting	Yes	Yes

Selection and ordering data

	Article No.
SIMATIC RTU3010C [1]	**6NH3112-0BA00-0XX0**
Compact RTU for variable power supply by battery, solar or 10.8 to 28.8 V DC for connection of an external industrial router; connection to control center via TeleControl Basic, DNP3, IEC60870-5-104 and SINAUT ST7 protocols, on-board I/O (8 DI, 4 DO, 4 AI), configuration and diagnostics via web interface	
SIMATIC RTU3030C [1]	**6NH3112-3BA00-0XX0**
Compact RTU for variable power supply by battery, solar or 10.8 to 28.8 V DC with integrated UMTS modem; connection to control center via TeleControl Basic, DNP3, IEC60870-5-104 and SINAUT ST7 protocols, on-board I/O (8 DI, 4 DO, 4 AI), configuration and diagnostics via web interface	
Accessories	
TeleControl Server Basic V3.1	
Runtime software for monitoring and controlling 8 to 5 000 Remote Terminal Units (RTUs); OPC (UA) server for operating modular RTUs e.g. on the basis of SIMATIC S7-1200 or compact RTUs via mobile wireless network or Ethernet/Internet; connection management for RTUs; routing for connections between S7 stations; Operating systems: Windows 7 Pro, Ultimate Enterprise + SP1 (64-bit) Windows 8.1 Pro (64-bit) Windows 10 Pro, Enterprise (64-bit) Windows Server 2008 R2 Standard + SP1 (64-bit) Windows Server 2012 R2 Standard (64-bit) Windows Server 2016 (64-bit)	
• **TeleControl Server Basic 8 V3.1** Connection management for 8 SIMATIC S7-1200 or S7-200 stations	**6NH9910-0AA31-0AA0**
• **TeleControl Server Basic 32 V3.1** Connection management for 32 SIMATIC S7-1200 or S7-200 stations	**6NH9910-0AA31-0AF0**
• **TeleControl Server Basic 64 V3.1** Connection management for 64 SIMATIC S7-1200 or S7-200 stations	**6NH9910-0AA31-0AB0**
• **TeleControl Server Basic 256 V3.1** Connection management for 256 SIMATIC S7-1200 or S7-200 stations	**6NH9910-0AA31-0AC0**
• **TeleControl Server Basic 1000 V3.1** Connection management for 1 000 SIMATIC S7-1200 or S7-200 stations	**6NH9910-0AA31-0AD0**
• **TeleControl Server Basic 5000 V3.1** Connection management for 5 000 SIMATIC S7-1200 or S7-200 stations	**6NH9910-0AA31-0AE0**
• **TeleControl Server Basic UPGR V3.1** Upgrade package from version V2.x to V3 for all license sizes	**6NH9910-0AA31-0GA0**

	Article No.
Battery case for SIMATIC RTU 3000C	**6NH3112-3BA00-1XX2**
Battery case for accommodating two D cell batteries; suitable for SIMATIC RTU3000C; batteries must be procured externally and are not included in the scope of delivery! Please observe information on the battery type in the manual!	
Battery expansion case for SIMATIC RTU3000C	**6NH3112-3BA00- 1XX6**
Battery expansion case for accommodating two D cell batteries; suitable for SIMATIC RTU3000C; batteries must be procured externally and are not included in the scope of delivery! Please observe information on the battery type in the manual!	
Enclosure in IP68 degree of protection	
For SIMATIC RTU3000C; Note: Cable glands and sealing plugs must be ordered separately in the necessary quantity	
• **Aluminum enclosure** Temperature range -40 to +80 °C	**6NH3112-3BA00-1XX3**
• **Stainless steel enclosure** Temperature range -60 to +135 °C	**6NH3112-3BA00-1XX1**
PG16 cable gland	**6NH3112-3BA00-1XX4**
For IP68 enclosure, temperature range -40 to +100 °C, nickel-plated brass	
Sealing plugs M16	**6NH3112-3BA00-1XX5**
For IP68 enclosure, temperature range -40 to +100 °C, nickel-plated brass	
SIMATIC Memory Card	
4 MB	**6ES7954-8LC02-0AA0**
12 MB	**6ES7954-8LE02-0AA0**
24 MB	**6ES7954-8LF03-0AA0**
256 MB	**6ES7954-8LL02-0AA0**
2 GB	**6ES7954-8LP01-0AA0**
ANT896-4MA 2G/3G/4G antenna	**6GK5896-4MA00-0AA3**
Omnidirectional antenna for GSM (2G), UMTS (3G) and LTE (4G) networks; omnidirectional characteristic; can be rotated radially with additional joint; with SMA connector for direct mounting on the device; antenna gain 2dBi; IP54	
ANT896-4ME 2G/3G/4G antenna	**6GK5896-4ME00-0AA0**
Omnidirectional antenna for GSM (2G), UMTS (3G) and LTE (4G) networks; omnidirectional characteristic; with N-female connector for remote installation indoors and outdoors; antenna gain 3dBi; IP66	
ANT794-4MR antenna	**6NH9860-1AA00**
Omnidirectional antenna for GSM (2G), UMTS (3G) and LTE (4G) networks; omnidirectional, weatherproof for indoor and outdoor use; 5 m connecting cable with fixed connection to the antenna; SMA connector; including mounting bracket, screws, wall plugs	

	Article No.
SIMATIC NET Antenna Connection Cable N/SMA male/male	
Flexible antenna connecting cable for connection of antenna and SCALANCE M	
• 0.3 m	**6XV1875-5LE30**
• 1 m	**6XV1875-5LH10**
• 2 m	**6XV1875-5LH20**
• 5 m	**6XV1875-5LH50**
SIMATIC NET antenna N-Connect male/male flexible connection cable	
Flexible cable for connecting an RCoax cable or antenna to a SCALANCE W-700 access point with N-Connect connections; pre-assembled with two N-Connect male connections	
• 1 m	**6XV1875-5AH10**
• 2 m	**6XV1875-5AH20**
• 5 m	**6XV1875-5AH50**
• 10 m	**6XV1875-5AN10**
SIMATIC NET N-Connect/ N-Connect female/female panel feedthrough	**6GK5798-2PP00-2AA6**
Cabinet feedthrough for wall thicknesses up to 4.5 mm, two N-Connect female connections	
LP798-1N lightning protector	**6GK5798-2LP00-2AA6**
Lightning protector with N/N female/female connection, IP67 (-40 to +85 °C), frequency range: 0 ... 6 GHz	
SITOP PSU100C single-phase, 12 V DC/2 A	**6EP1321-5BA00**
Stabilized power supply Input: 100 … 230 V AC Output: 12 V DC/2 A	
SITOP PSU100C single-phase, 12 V DC/6.5 A	**6EP1322-5BA10**
Stabilized power supply Input: 100 … 230 V AC Output: 12 V DC/6.5 A	
SITOP PSU100C single-phase, 24 V DC/1.3 A	**6EP1331-5BA10**
Stabilized power supply Input: 120 … 230 V AC Output: 24 V DC/1.3 A	
SITOP PSU100C single-phase, 24 V DC/2.5 A	**6EP1332-5BA00**
Stabilized power supply Input: 100 … 230 V AC Output: 24 V DC/2.5 A	
SITOP PSU100C single-phase, 24 V DC/3.7 A	**6EP1332-5BA20**
Stabilized power supply Input: 100 … 230 V AC (110 ... 300 V AC) Output: 24 V DC/3.7 A Limited output power NEC class 2	

1) Please note country approvals under: http://www.siemens.com/mobilenetwork-approvals

More information

Technical requirements/compatibility

Telecontrol Server Basic Version V3 SP1 for RTU3030C or V3.1 for RTU3010C is required for connection to a telecontrol control room.

Corresponding suitable industrial routers (e.g. SCALANCE M) for the connection to the control center via the Ethernet interface of the RTU3000C can be found under Remote Networks - IP-based modems and routers.