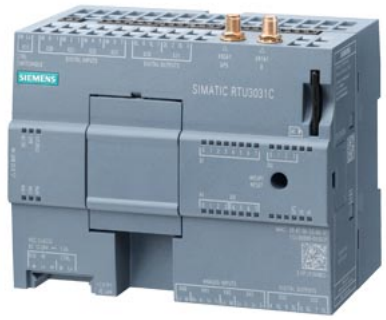
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Data sheet 6NH3112-3BB00-0XX0

product type designation	**RTU3031C**

- - spare part - - SIMATIC RTU3031C compact low-power RTU; battery or solar-operated; connection external power supply 10.8 V to 28.8 V DC; integrated UMTS modem; GPS; 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 synchronization, SMS, email, SD card slot. Observe national approvals!



product brand name	SIMATIC
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 / 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 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 Gibyte
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

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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
● GPRS	Yes
●	GPRS (Multislot Class 10)
type of wireless 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	
● at 30 °C / without condensation / during operation / maximum	95 %

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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
fastening method	
● 35 mm DIN-rail mounting	Yes
● wall mounting	Yes
product features, product functions, product components / general	
product function	
● DynDNS client	Yes
● no-ip.com client	Yes
product functions / cloud connectivity	
protocol / is supported	
● Message Queuing Telemetry Transport (MQTT)	Yes
product function / for cloud connectivity	
● trigger management	Yes
● time stamping	Yes
product feature / for cloud connectivity / buffered message frame memory	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	
● as client / by means of FTP / maximum	1
number of entries / in the FTP buffer / maximum	12
number of possible connections	
● as server / by means of HTTP / maximum	2
● as server / by means of HTTPS / maximum	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.
● as email client / maximum	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
performance data / telecontrol	
suitability for use	
● node station	No
● substation	Yes
● TIM control center	No
control center connection	IEC 60870-5-104, DNP3-capable control stations, SINAUT ST7cc/sc, TeleControl Server Basic
● by means of a permanent connection	supported
● by means of demand-oriented connection	supported
protocol / is supported	
● DNP3	Yes
● IEC 60870-5	Yes
● SINAUT ST1 protocol	No
● SINAUT ST7 protocol	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 /	256 Kibyte

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maximum	
product feature / buffered message frame memory	Yes
performance data / teleservice	
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
product functions / management, configuration, engineering	
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
product functions / diagnostics	
product function / web-based diagnostics	Yes
product functions / security	
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
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
standards, specifications, approvals / hazardous environments / header	
certificate of suitability / CCC / for hazardous zone according to GB standard	Yes
further information / internet links	
internet link	
● to website: Industrial communication	https://www.siemens.com/simatic-net
● to website: Image database	https://www.automation.siemens.com/bilddb
● to website: CAx-Download-Manager	https://siemens.com/cax
● to website: Industry Online Support	https://support.industry.siemens.com
security information	
security information	Siemens provides products and solutions with industrial cybersecurity functions

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Approvals / Certificates

General Product Approval				For use in hazardous locations	
Declaration of Conformity	CE EG-Konf.	UL	China RoHS	FM	CCC-Ex

For use in hazardous locations	Radio Equipment Type Approval Certificate	Environment
UL	Miscellaneous	EPD

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