Firmware and tools

WCCLite firmware version 1.8.5 (released 16/04/2024)

RTU Firmware v1.8.5 -> Download

▼ **1.8.5 Changelog**

Events log:

- Fix: Timestamps are now represented correctly in millisecond precision.

General:

- Syslog now has messages indicating that the protocol is connected or disconnected.

▼ **Known issues**

- GSMD does not work with hardware older than version 1.4.
- Some mathematical functions have been changed and might not work. Mathematical functions for slave protocols have been removed. More information can be found in the Manual, chapter 18.3 Mathematical functions.
- For some protocols device status signals might not work or work incorrectly.
- Meter-bus signals are not displayed on the WCCLite web interface under the imported signals tab.

WCCLite firmware version 1.8.4 (released 11/04/2024)

RTU Firmware v1.8.4 -> Download

▼ **1.8.4 Changelog**

IEC103:

- Fix: Initialization

IEC104 slave:

- New: support for broadcast time sync and general interrogation

IEC101 slave:

- New: support for broadcast time sync

▼ **Known issues**

- GSMD does not work with hardware older than version 1.4.
- Some mathematical functions have been changed and might not work. Mathematical functions for slave protocols have been removed. More information can be found in the Manual, chapter 18.3 Mathematical functions.
- For some protocols device status signals might not work or work incorrectly.
- Meter-bus signals are not displayed on the WCCLite web interface under the imported signals tab.

WCCLite firmware version 1.8.3 (released 12/01/2024)

RTU Firmware v1.8.3 -> Download

▼ **1.8.3 Changelog**

Events log:

- Fix: Master displays control events.

IEC10x:

- New: IEC104-Slave UID now consists of asdu, ioa, and type.
- Fix: IEC103-Master command transmission is now correct.
- Fix: IEC104-Slave add asdu type to cache message.
- Fix: IEC104-Master UID now consists of asdu, ioa, and type.

Modbus:

- Fix: Modbus-slave DIGITAL signal type size correction.

Libelseta-misc:

- New: integral threshold can send periodic data when the threshold is set to 0.

WCC-Web:

- New: Keep only the network settings button.
- Fix: Grammar mistakes.

Pooler:

- Fix: Pathing for config files.

▼ Known issues

- GSMD does not work with hardware older than version 1.4.
- Some mathematical functions have been changed and might not work. Mathematical functions for slave protocols have been removed. More information can be found in the Manual, chapter 18.3 Mathematical functions.
- For some protocols device status signals might not work or work incorrectly.
- Meter-bus signals are not displayed on the WCCLite web interface under the imported signals tab.

WCCLite firmware version 1.8.1 (released 05/07/2023)

RTU Firmware v1.8.1 -> Download

WCC-excel-utility v1.8.1 -> Download

▼ 1.8.1 Changelog

Events log:

- Fix: Timestamp corrections like milliseconds separator changed to dot, removed DOW (Day of the week).

Excel-utility:

- Fix: MQTT functionality improvements.
- Fix: Fixed issue where invalid source_device_alias would be incorrectly reported.
- New: Utility now lists unused variables when creating the configuration.

Gsm-utils:

- New: Added APN setting before sim switch.
- Fix: GSMD service now informs the system when the modem is ready for work and clears the serial line on start.

IEC10x:

- New: IEC101-Master* Multiple link support.
- Fix: IEC103-Master* Correct responses to command ACK, NACK, and link-down situations.
- Fix: IEC103-Master* Unset COT handling.
- Fix: IEC103-Master* fixed initialization sequence.
- Fix: IEC103-Master* General command correct response handling fixed.
- Fix: IEC101-Master, IEC103-Master* NT flag is set to signals on normal service exit.
- Fix: IEC101-Master* added SQ functionality.
- Fix: IEC101-Master* Minor changes to message spam to syslog and NT signals set on every connect.
- Fix: IEC101-Master* NT record time, NACK response logic, and communication status signal update.
- Fix: IEC101-Master* fixed receive buffer clearing.

Modbus:

- New: Tags are set to NT on service shutdown.
- New: When the job is timed out an informative message is provided.

- Fix: Internal delay removed from TCP link.
- Fix: The command queue is cleared on the link down.
- Fix: Commands received on the link down are not added to the inner job queue and the correct ack/nack response is added.
- Fix: Scheduler timeout timer configured from config instead of maximum allowable time.
- Fix: Correct channel displayed in math debug messages.

MQTT:

- New: MQTT Client now supports TLS connection.
- New: MQTT protocol is now listed in protocol connections.

SMS-receiver:

- New: New service for SMS receive via GSM subsystem.

SMS-sender:

- Fix: The service now gives information in debug mode about starting.

▼ **Known issues**

- GSMD does not work with hardware older than version 1.4.
- Some mathematical functions have been changed and might not work. Mathematical functions for slave protocols have been removed. More information can be found in the Manual, chapter 18.3 Mathematical functions.
- For some protocols device status signals might not work or work incorrectly.
- Meter-bus signals are not displayed on the WCCLite web interface under the imported signals tab.

4diac development environment for integrated PLC.

Download it from here. (Since firmware 1.4.0)

WCCLite firmware version 1.7.0 (released 08/11/2022)

RTU Firmware v1.7.0 -> Download (MD5sum: 9dd88b1a56cf485e60f87b34421fdbe0)

WCC-excel-utility v1.7.0 -> Download

▼ **1.7.0 Changelog**

General:

- NEW scripts engine on WCCLite - LUA Runner
- NEW: support of multiple Lua scripts with access to selected tags
- NEW: web interface to upload scripts and control (stop/run)
- NEW: Excel added functionality to control Lua scripts

DLMS/Cosem Master v1.0.7

- FIX: Syslog is written only once per error til the next successful read, Debug printing continues on subsequent errors.
- NEW: Error codes for register configuration and socket timeout.

MQTT Publish v1.2.0

- NEW: MQTT protocol is now listed in the protocol connections tab making it easy to debug link status.
- NEW: MQTT publish DNS support enables the use of domain names instead of IP addresses. Now supports both IP and DNS as host.

WCC Excel utility (v1.7.0) and internal WCCLite Protocol HUB configuration upload:

- NEW: MQTT publish DNS support enables using domain names instead of IP addresses only previously.
- NEW: IEC101-Slave Added default values for parameters like message_size and respond_delay now that can be not configured in Excel.
- NEW Lua-runner script running engine. Configurations are now available for the Lua script engine.
- FIX: Data-Export service logging_period_aligned now only supports integer type 1 and 0 as true or false.

WCCLite firmware version 1.6.3 (released 05/10/2022)

RTU Firmware v1.6.3 -> Download (MD5sum: a682f29757f9ae163548b4c67da8951c)

WCC-excel-utility v1.6.3 -> Download

▼ 1.6.3 Changelog

General
- New: Added new interface about network IP addresses [Status->Overview Interfaces table].
- New: Extended web interface width.
- New: Source math expressions added. Please check the WIKI page for more information.
- New: Virtual tags support added. Please check the WIKI page for more information.
- New: math expressions added: floor and mod(%).
- New: Redesigned internal data with faster data update and independent from other protocols' behavior. Please check the WIKI page for more information.
- New: Internal signals based on the date are available (Years, months, days, hours, minutes, seconds).
- New: Syslog added milliseconds on-time printing.
- Fix: Wcclite time sync service improved.
- Fix: Signal linking performance improved.

Data export v.1.1.1
- New: Precision to 4th number after of float points added 10e-4 are converted to scientific format (e.g. 0.51e-6)

DLMS/Cosem Master v1.0.5
- New: Fully redesigned DLMS/Cosem service is separate from the pooler. Please check the WIKI page for more information.
- New: Improved debug information gives a better understanding of DLMS exchange.
- Fix: Improved data exchange between master and slave. Faster requests from master to slave.
- Fix: Reduced information in syslog about communication failure.

DNP3.0 Master v1.1.1
- New: Added into protocol connections information about DNP3.0 protocol.

IEC 60870-5-101 Slave v.1.9.33
- New: IEC 60870-5-101 added support for 58-63 data types
- Fix: The time quality bit is now set according to the time sync status.

IEC 60870-5-104 Slave v1.10.0
- New: DNV/KEMA IEC 60870-5-104 Slave certified.
- New: Command age handling added.
- Fix: Unsupported signals are acknowledged with negative COT7.
- Fix: Clock synchronization command fixed due to standard requirements.
- Fix: Double precision values and step commands fixed due to standard requirements.
- Fix: Timers t1, t2 and t3 improved timer accuracy.
- Fix: Improved response to invalid data packets.
- Fix: The time quality bit is now set according to the time sync status.

Modbus Master v1.2.8
- Fix: Enabled link restart after failed communication
- Fix: Internal timer update to prevent incorrect functionality after time sync.

Modbus Slave v1.1.7
- New: Communication status and Device running signals can now be configured.
- Fix: Writing functions now return the correct error.
- Fix: Forbidden write into not configured registers.
- Fix: Improved service stability.

WCC Excel utility (v1.6.3) and internal WCCLite Protocol HUB configuration upload:
- New: IEC 60870-5-101 added support for 58-63 data types
- New: Modbus Slave communication status and device running signals added.
- New: Modbus Master added a status parameter for each device.
- New: IEC 60870-5-104 Slave added command_age parameter.
- Fix: improved and aligned to all protocols logging_period_aligned with integer 1(true) and 0
- Fix: Math expressions improved
- Fix: Missed default settings were added to the configuration.

WCCLite firmware version 1.6.2 (released 18/03/2022)

RTU Firmware v1.6.2 -> Download (MD5sum: df583b3052f3e5a09b7ad3dfb8a3745b)

WCC-excel-utility v1.6.2 -> Download

▼ 1.6.2 Changelog

WEB interface improvements:

- NEW: Excel configuration upload, now faster than ever and limited to 1000 signal lines in Excel.
- NEW: Chronosd and time synchronization window;
- NEW: Added additional GSM options to better control connection to the GSM network with a fixed IP;
- NEW: Events-log improved with Signal direction for visualization.
- FIX: Password changing error via the web interface.
- FIX: Login Security issues.

Improved mobile connectivity:

- NEW: Added GSM network support with fixed IP and custom APN at once;
- FIX: GSM network interface starting issues.

NEW Time synchronization management service CRONOSD:

- NEW: Prioritization of time sync sources;
- NEW: Information about current time master and status;
- NEW: Manage time sync sources;

IEC 61850 Master:

- NEW: IEC61850 client additional ACT/ACD structures variations;

IEC 60870-5:

- FIX: IEC-104 slave: data type conversion after GI;
- NEW: Chronosd support for IEC101-slave and IEC104-slave;

IEC 60870-5-103 master:

- FIX: Improved command processing speed;
- FIX: Single signal control with different SCADAs;
- FIX: Other bugfixes;

DNP3:

- NEW: Chronosd support;

DATA EXPORT service:

- NEW: Multiple devices support;

WCCLite firmware version 1.5.4 (released 27/08/2021)

RTU Firmware v1.5.4 -> Download (MD5sum: bb5c9806b0202ff778851d642467ed65)

Cloud Firmware v1.5.4 -> Download (MD5sum: 5dcb6dc4c99f7e374f7b3120019d6ca1)

WCC-excel-utility v1.3.6-> Download

▼ 1.5.4 Changelog

WEB interface improvements:

- NEW: Upgrade Events Log window with auto refresh and log record number options.
- NEW: PIN status view in GSM window.
- NEW: Remove the fboot file button in Protocol Hub.
- FIX: Small fixes for Switch SIM and Restart Modem buttons.
- FIX: Removed GSM-related sections from the web if the modem is not present in the device.
- FIX: Removed unused protocols from the network interfaces window.
- FIX: IP address display on GSM interface.
- FIX: Small style fixes.

Redesigned EVENTS LOG:
- NEW: New events log service (works with all protocols).

Extended functionality of DATA EXPORT service:
- NEW: Added csv-periodic, json-simple, json-samples format to data-export.
- NEW: Memory optimization (vmRSS) for data-export.
- NEW: Added field separator and decimal number separator selection to data-export.
- NEW: Enforcing additional rules for data-export folders.
- NEW: Multi-device support for data-export.

Improved mobile connectivity:
- NEW: Enter the PUK code if the SIM card is blocked.
- FIX: Do not start GSM-related services if the modem is not present in the device.

IEC 60870-5-103 master:
- FIX: IEC103-master bugfix measurements with negative values.

MODBUS master:
- FIX: Bugfixes, memory handling issues.
- FIX: Bugfixes.

New SMS SENDER service:
- NEW: SMS sending functionality.

Other protocol improvements:
- FIX: TCP/IP sockets changed to nonblocking.
- NEW: DLMS prefix replaced with device alias in error and debug logs.
- FIX: DLMS library updated.
- NEW: DLMS connection tracker added.
- NEW: DLMS -raw command added to check packages in hex.
- FIX: DLMS reading speed increased.
- NEW: DLMS meter server address and register short names can now be specified with address_size and short_name columns in configuration Excels.

VPN funcionality IPSEC:
- FIX: IPSec service not starting properly.

WCC EXCEL UTILITY v1.3.6:
- NEW: Added redesigned events log service.
- FIX: Added default value for data export.
- NEW: SMS sender protocol.
- NEW: Short name and address size columns for DLMS.

Known issues:
- **Events log**: The events log displays only raw signal values. Values processed with math expressions are omitted.
- **SMS sender**: The host parameter in the Devices sheet is required when configuring the SMS sender. WCC Excel utility does not report that as a problem.

WCCLite firmware version 1.5.1 (released 10/2/2021)

RTU Firmware v1.5.1 -> Download (MD5sum: 023b30a2aa997818abada9cf4e0a515e)

WCC-excel-utility v1.3.3 -> Download

▼ **1.5.1 Changelog**

- **DLMS**:
  - New: DLMS meter server address and register short names can now be specified with address_size and short_name columns in configuration Excel.
  - Fix: DLMS reading speed increased.
- **Modbus Master**:
  - Fix: Incorrect connection status operation for serial instances.
  - Fix: Reconnection issues with TCP stations
- **WCC Excel Utility v1.3.3**:
  - New: Short name and address size columns for DLMS added.

WCCLite firmware version 1.5.0 (released 20/1/2021)

RTU Firmware v1.5.0 -> Download

WCC-excel-utility v1.3.2 -> Download

▼ **1.5.0 Changelog**

- **Remote debugging and protocol analysis of WCC Lite protocols on your PC:**
  - By using the WCC Excel utility you can monitor and observe real-time protocol communication between WCCLite and connected 3rd party devices;
- **New protocols:**
  - IEC 61850 Server protocol support:
    - Supported: edition 1, edition 2, edition 2.1;
    - Flexible ICD files;
    - TLS encapsulation;
    - Static Report control blocks;
    - Buffered and unbuffered Report Control blocks;
    - Command execution (all types).
  - IEC 61850 Client protocol support:
    - Supported: edition 1, edition 2, edition 2.1;
    - TLS encapsulation;
    - Static Report Control blocks;
    - Buffered and unbuffered Report Control blocks;
    - Execute commands (all types).
  - Data Export service:
    - Export data to remote FTP(s), HTTP(s) servers;
    - Authentication support (based on username and password);
    - Export formats CSV and JSON;
    - Compression function included;
    - Multiple servers support;
    - Perfectly fits into IoT and Cloud computing applications.
- **Cybersecurity functions:**
  - Password complexity support for local users:
    - Password complexity can be enabled or disabled by the administrator;
    - Freely configurable password policy including:
      - Minimum password length;
      - Upper case letters requirement;
      - Lower case letters requirement;
      - Digits use;
      - Special characters are used.
  - Protocol status window:
    - Shows configured protocols on the device;
    - Shows connected/disconnected client/server IP address;
    - Now supports IEC 60870-5, DNP 3.0, and Modbus protocols;

- **Bug fixes and major improvements:**
  - WCCLite internal signals
    - Solved problems with signal CPU usage;

WCCLite firmware version v.1.4.7 (released 12/11/2020)

RTU Firmware v.1.4.7 -> Download

▼ **1.4.7 Changelog**

- **Web UI**:
  - Fix: Signals update bug in Imported Signals window;
  - Event log window rework/fix.
- **Pooler/DLMS**:
  - Fix: CPU usage reading job always returns 0 (v2.16.2);
  - Fix: DLMS float/double endianness bug(v2.16.2).
- **DNP3.0**:
  - Fix: Lifetime issues under big data transfer rate for master (v2.2.1);
  - Fix: Slave does not remove Buffer_Overflow IIN bit (v2.2.1);
  - Fix: Master does not send ACT_TERM signal after the successful command(v2.2.1).
- **Wcc-excel-utility**:
  - Fix: DNP3 master integrity_interval and exception_interval variables reading(v1.3.1).

WCCLite firmware version v.1.4.6 (released 24/9/2020)

RTU Firmware v.1.4.6 -> Download

▼ **1.4.6 Changelog**

- **DNP 3.0 slave**:

- fixed: Select/Operate behavior (now accepts time gap between Select and Operate);
- added: support Pulse On/Off and Trip/Close commands;
  - **DNP 3.0 master**:
    - fixed: DirectNoAck command support;
    - added: support for Pulse On/Off and Trip/Close commands;
  - **Pooler DLMS**:
    - fixed: timeout handling (now supports timeout and timeout_ms);
    - fixed: WRAPPER layer support;
  - **Pooler fix**: Added a configurable serial close delay;
  - The administrator password window changed the name;

WCCLite firmware version v.1.4.5 (released 4/7/2020)

RTU Firmware v.1.4.5 -> Download

▼ 1.4.5 Changelog

- Modbus fix: improved reconnect function for Modbus TCP;
- Modbus fix: reconnect default delay extended to 3 seconds for Modbus TCP;
- Self-check: Added IMEI scanning;
- updated interface name for the mobile modem from ublox to wwan;
- telemetry-agent: minor fixes to limit CPU usage;
- fboot upload mechanism of removing non-ASCII characters removed;
- if a duid-registering server returns a 500-like error, script handling it is killed;
- telemetry-agent kills every subprocess lasting than 4 seconds to not let CPU load skyrocket;
- FBOOT file starting successes/failures are now written to Syslog;
- Modbus fix: pulse tags can now be sent in parallel;
- Modbus fix: command buffer is now transformed to FIFO
- fboot file is no longer deleted after importing configuration;
- self-check has added checks for digital input;
- fixes for GSM while migrating from a version older than 1.4.0;
- process controlling LEDs is restarted after self-check;
- Modbus job in semicolon form interpretation problem solved;
- Modbus-slave now returns DATA_ILLEGAL_ADDRESS if no valid data can be found;
- WCC Excel utility now accepts uppercase, lowercase, and mixed versions of a protocol name;
- measurement units introduced to signal quality in the GSM status window;
- dropdown introduced for pinger communication interface;
- proper cleanup after an unsuccessful update of configuration;
- not letting import configuration via the front-end interface if a blank file is being forced;
- forcing synchronous communication when operating Modbus TCP;
- Fixes Sara-U270 modem technology select dropdown list;

WCCLite firmware version 1.4.0 (released 4/4/2020)

RTU Firmware v.1.4.0 -> Download

WCC-excel-utility v1.2.19 -> Download

▼ 1.4.0 Changelog

- PLC logic. This logic is compatible with IEC 61499 and will be able to perform tasks distributed across several devices and aggregate their results.
- Official WCC Excel utility. The new utility will enable you to load configurations remotely, and overall speed up the configuration process.
- MQTT client. The functionality is currently available for unencrypted data and is recommended for use in local networks. There is also an LWT option.
- GSM status window. This will allow us to monitor the GSM parameter in real time, restart the modem, or switch SIM cards.
- GSM parameters, as well as GSM pinger parameters, have migrated to the Network graph. They were given wider selection options.
- It is now possible to track signal quality history. Signal quality will also be shown for certain parameters for certain signals.
- Updates to Imported signals column filtering
- Imported signals now refresh signals by signal_alias and device_alias pair – instead of device_name and signal_name as before;
- Host parameter is no longer needed for Modbus Slave Serial;
- Previously, if operator selection was used in Excel - flags would be added incorrectly. This has been updated;
- For certain mathematical operations, some quotation symbols were incorrectly interpreted. They are automatically corrected at reading time to the format understandable for the software;
- All required updates to out-of-the-box support the upcoming 1.4 firmware version release;

WCCLite firmware version 1.3.7 (released 23/03/2020)

NOTE: Unzip before putting it into the device!

RTU Firmware v.1.3.7 -> Download

Cloud Firmware v.1.3.7 -> Download

▼ 1.3.7 Changelog

- IEC 60870-5-103 process handles device connection/disconnection more robustly;
- Multiple Modbus commands can be sent without causing process crashes;
- Modbus commands can be executed one after another if that device is handled by the process at that moment;
- IEC 60870-5-103 endianness problems fixed;

Known issues:

- some quote (unquote) symbols may break math_expression functionality

WCCLite firmware version 1.3.6

NOTE: Unzip before putting it into the device!

RTU Firmware v.1.3.6 -> Download

▼ 1.3.6 Changelog

- IEC 60870-5-103 protocol error counting mechanism problem which hangs the process is fixed;

Known issues:

- IEC 60870-5-103 process might get overrun and hang if the device is disconnected for lengthy amounts of time;
- multiple Modbus commands in a row may cause a segmentation fault

WCCLite firmware version 1.3.5

NOTE: Unzip before putting it into the device!

RTU Firmware v.1.3.5 -> Download

Cloud Firmware v.1.3.5 -> Download

▼ 1.3.5 Changelog

- Speedup 10x of an IEC 60870-5-103 Master protocol;
- IEC 60870-5-103 signals of the fleeting type introduced;
- System Diagnostic Report function introduced (System->Backup/Flash Firmware);
- Fixes for default protocol hub firewall rules;
- modem now are timed with timeouts to rule out any script going rogue on CPU;
- Last Will and Testament messages are now technically supported for MQTT (via rm-bridge) protocol.

Known issues:

- IEC 60870-5-103 error counting mechanism might hang the process.