BlueNet BN PRO Software Release Notes

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Further information can be found at: https://www.bachmann.com/en/downloads/bluenet-pdus/

BlueNet BN PRO Release Notes V1.7.2

16.11.2026

Supported BlueNet devices:
BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Highlights
- Extended Modbus TCP state information: Dedicated input registers now provide standardized device, component, and measurement states for more detailed monitoring.
- State-specific signal chains: Signal chains can now be assigned to individual states of an element instead of only to the overall measured variable.
- Improved reset behavior: A factory reset now also removes IEEE 802.1X certificates, private keys, and associated configuration.

New Features

Extended Modbus TCP State Information
The Modbus TCP interface now provides dedicated input registers using Function Code 0x04 for device, component, and measurement states.
- Standardized measurement states indicate normal operation as well as high and low warning and alarm conditions.
- Dedicated element states are available for inlets, phases, MCBs, RCMs, outlets, GPIOs, external sensors, and SPDs.
- Component-specific states include MCB tripped, RCM defect, SPD defect, and RCM self-test in progress.
- Aggregated PDU states indicate alarms, warnings, or status errors reported by subordinate elements.

The Modbus register map and state definitions have been updated accordingly.

State-Specific Signal Chain Assignment
Signal chains can now be assigned to individual states of an element. This allows actions to be configured for specific operating, warning, or alarm states instead of assigning a signal chain only at measured-variable level.

Improvements

LDAP Distinguished Name Validation
Validation of LDAP Bind DN and Base DN settings has been extended. Valid distinguished names containing spaces, dots, umlauts, escaped characters, or multi-valued RDNs are now accepted, while invalid formats continue to be rejected.

Bug Fixes

- Fixed an issue where the signal-chain beeper could remain active after a warning or alarm condition had been reset for single-state elements such as SPD, RCM, MCB, and GPIO states.
- Fixed an issue where IEEE 802.1X certificates, private keys, and associated configuration were not completely removed by a factory reset.

Security

IEEE 802.1X Factory Reset Behavior
A factory reset now removes IEEE 802.1X certificates, private keys, and associated configuration. This ensures that IEEE 802.1X credentials are not retained after the device is returned to its factory-default state.

Compatibility / Important Notes

Firmware Downgrade
After updating to V1.7.2, downgrading the PDU firmware to an earlier version is not supported due to an upgrade of an internal software component.

Modbus TCP
Existing Modbus master integrations using the previously available measurement registers remain supported. Integrations can optionally use the new input-register state information for more detailed alarm, warning, and device-status evaluation.

Factory Reset and IEEE 802.1X
A factory reset now removes IEEE 802.1X certificates, private keys, and associated configuration. IEEE 802.1X must therefore be reconfigured after a factory reset.

Known Issues

- When SMTP is enabled and configured with an unreachable or incorrect server address, signal-chain execution may not be triggered.

BlueNet BN PRO Release Notes V1.7.1

27.10.2026

Supported BlueNet devices:
BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Highlights

- Added IEEE 802.1X support, configurable through the web interface and CLI.
- Added control of selected physical PDU interfaces, allowing administrators to list, enable, and disable Ethernet, PDU Link Interface, USB, and SD card interfaces through the CLI.
- Improved digital I/O and signal-chain configuration, including signal assignment and signal-chain testing.
- Improved cluster diagnostics and local display behavior for clustered PDUs.
- Improved security through account lockout/time-delay protection after consecutive failed login attempts.
- Improved SNMP MIB revision handling to preserve compatibility with existing SNMP monitoring configurations when updating from previous releases. Devices updated from v1.6.1-x or older with SNMP enabled use Legacy mode by default, while other defined scenarios use Extended mode.

New Features

- IEEE 802.1X: Added IEEE 802.1X configuration through the web interface and CLI.
- Physical port control: Added CLI functionality to list, enable, and disable eth1, eth2, PDU Link Interface, USB, and SD card interfaces.
- Digital I/O signal assignment: Added configuration and mapping of signal chains to GPIO digital inputs and outputs. Attached signals can be managed through the CLI and web interface.
- Signal-chain testing: Added functionality to test signal chains through the CLI and web interface.
- Local status information: Added status information to the local user interface for element state errors such as lost RCM, MCB, or sensor connections.

Improvements

- Cluster diagnostics: Diagnostic files now include additional product configuration information, Link-PDU alarm details, and measurements.
- Cluster PDU handling: Improved the handling of PDU positions within a cluster.
- Display settings in clusters: Display rotation and orientation can now be configured independently for each PDU in a cluster.
- SNMP cluster mode: The reported SNMP cluster mode value ScanMain has been renamed to Single.
- SNMP value information: Improved the presentation of SNMP value details, including correct information for Switched and Switched+ PDU variants.
- SNMP MIB revision handling: Improved the selection and persistence of the SNMP MIB revision. The active sysObjectID now corresponds to the selected Legacy or Extended MIB revision, and the selected revision is retained after a reboot.

Bug Fixes

- Fixed an issue where expected SNMPv3 behavior could be affected after a firmware update from versions earlier than v1.6.x.
- Fixed an issue where outlets configured as OFF could return to the ON state after a firmware update. The configured outlet state is now retained.
- Fixed an issue affecting the availability representation of a Link-PDU after it was removed from a cluster.
- Fixed an issue where beeper and display signal-chain behavior was not handled independently as intended.

Security

- Added IEEE 802.1X support for network access control, configurable through the web interface and CLI.
- Added an account lockout/time-delay mechanism on web frontend after consecutive failed login attempts. A 5-minute time delay is applied after five consecutive failed sign-in attempts.
- Added CLI-based control for enabling and disabling selected physical PDU interfaces, including Ethernet, PDU Link Interface, USB, and SD card interfaces.

Compatibility / Important Notes

SNMP MIB revision after firmware update
The active SNMP MIB revision after updating to v1.7.1 depends on the previous configuration and device state:

- Devices updated from v1.6.1-x or earlier with SNMP enabled use Legacy mode after the update.
- Devices updated with SNMP disabled use Extended mode by default.
- After a factory reset or full factory reset, Extended mode is used by default.
- A user-selected Legacy or Extended MIB revision is preserved during firmware updates and after reboot.
- The SNMP sysObjectID corresponds to the active MIB revision.
- Both MIB trees are available on the device; however, the selected MIB revision determines the active sysObjectID and the revision intended for monitoring.

This behavior is intended to preserve SNMP compatibility for existing installations while using Extended mode as the default for devices without an existing applicable SNMP configuration. For new installations and monitoring configurations, use of the Extended MIB revision is recommended. Legacy mode is primarily intended to maintain compatibility with existing SNMP monitoring configurations.

SNMP cluster mode value
The SNMP cluster mode reporting value has changed from:
ScanMain → Single

> **Important:** The SNMP cluster mode value ScanMain has been renamed to Single. Monitoring systems, scripts, or automation that evaluate this value must be checked and may require

adaptation.

Firmware downgrade
After updating to v1.7.1, downgrading to an earlier firmware version is not possible due to an update of the underlying data storage component.

Outlet states during firmware update
Configured outlet states are retained during a firmware update. In particular, outlets configured as **OFF** no longer revert to **ON** as a result of the update.

Updating from releases earlier than v1.6.x
SNMPv3 behavior when updating from releases earlier than v1.6.x has been corrected. Existing installations using SNMPv3 should verify their SNMP configuration and monitoring operation after the firmware update.

Known Issues

- **IEEE 802.1X credentials:** A factory reset currently does not remove IEEE 802.1X certificates and private keys. These files remain stored on the device after the reset and must be removed separately if the device is decommissioned, transferred, or reconfigured.

Release Note V1.7.0

24.09.2026

Supported BlueNet devices:

BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.6.1 and can be installed as an update to all former BN PRO / BlueNet BN Gen2 software releases. It is recommended to create a backup before performing the update. The PDU system time and date must be later than 1 February 2024 to perform an update.

Important Information:

- The underlying operating system has been updated to a new long-term support platform to ensure continued stability, security updates, and long-term maintainability.
- Users using SNMP-based monitoring systems should update to the latest BlueNet MIB files delivered with this release. The MIB structure has been revised to improve compatibility with industry-standard network management and monitoring tools.
- A downgrade to any version prior to v1.6.1 is not possible

New Features:

- Comprehensive SNMP MIB revision providing enhanced support for third-party monitoring and management systems

Enhancements:

- Migration to the latest long-term support software platform, improving maintainability and future software compatibility
- Improved SNMP implementation with optimized MIB structure and monitoring integration
- Enhanced outlet switching interval configuration with finer adjustment steps and improved consistency across Web UI and CLI (not applicable for BM0011864)

Bug Fixes:

- Resolved a firmware issue that could cause outlet boards to enter a continuous reset state after invalid measurement conditions, improving system availability and recovery behavior
- Fixed synchronization of language settings within clustered PDU installations. Linked PDUs now correctly receive language updates from the main PDU
- Fixed hostname restoration during configuration migration and import procedures
- Corrected outlet switching interval handling to ensure consistent application of configured timing parameters

Known Issues:

- If a cluster is to be disbanded, all link PDUs must first be removed. Only then can the main PDU be set to ‘Single’ status. There is a risk that the link PDUs may not be reset correctly and may no longer be accessible via the network.

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet BN PRO Firmware Update Package v1.7.0
- SNMP MIBs
- Release Note V1.7.0
- Mounting and Installation Instructions
- Related product documentation and support files

Release Note V1.6.1

18.08.2026

Supported BlueNet devices:

BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.5.1 and can be installed as an update to all former BN PRO / BlueNet BN Gen2 software releases. It is recommended to create a backup before performing the update. The PDU system time and date must be later than 1 February 2024 to perform an update.

New Features:

- Syslog integration for centralized event monitoring and logging
- Multi-language support for Web Frontend and Local GUI (English, German, French)
- Configurable temperature and humidity sensor calibration offsets via Web UI and CLI
- SMTP test functionality to validate email configuration directly from the Web UI and CLI
- Signal chain configuration support for Surge Protection Devices (SPD)

Enhancements:

- Improved Modbus TCP implementation with support for V1.0 and V1.1 register maps while maintaining backward compatibility
- Added missing measurement registers to the Modbus TCP interface (V1.1)
- Enhanced Local UI with improved PDU information display, model identification and usability improvements
- Improved dashboard information in the Web Frontend including device series and model information
- Enhanced LDAP configuration handling in the Web Frontend
- Added self-profile management capability for users with operator permissions
- Updated SNMP OIDs for contact and location information
- Prevented invalid display timeout values from being configured

Known Issues:

- In a cluster setup, local UI language settings are not currently propagated from the main device to linked devices. The language must be configured separately on each link-PDU.

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet BN PRO Firmware Update Package v1.6.1
- Release Note V1.6.1
- Mounting and Installation Instructions

- Related product documentation and support files

Release Note V1.5.1

11.06.2026

Supported BlueNet devices:

BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.4.3 and can be installed as an update to all former BN PRO / BlueNet BN Gen2 software releases. It is recommended to create a backup before performing the update. The PDUs system time and date must be later than 1 February 2024 to perform an update.

New Features:

- Automatic power on delay time for outlets via CLI

Enhancements:

- Fixed RTC fallback time to ensure certificate validity, enabling out-of-the-box PDUs software flashing without manual time setup
- Mitigated security threat with kernel fix for CVE-2026-31431
- Kernel patch for Dirty Frag (CVE-2026-43284)

Known Bugs:

- When using SSH keys for authentication: Before using “cli cluster promote-to-main” explicitly use “cli auth -u “USERNAME” -p “PASSWORD”

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet BN PRO software update package
- Mounting and installation instructions
- This Release Note

Release Note V1.4.3

30.03.2026

Supported BlueNet devices:

BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.4.2 and can be installed as an update to all former BN PRO / BlueNet BN Gen2 software releases. It is recommended to create a backup before performing the update. The PDUs system time and date must be later than 1 February 2024 to perform an update.

New Features:

- The Modbus TCP registers for frequency on inlet layer added (register 29)

Enhancements:

- Fixed issue with disk usage to prevent boot loops
- All PDUs within a cluster now uses the time zone of the main PDU
- The input fields for the threshold can now be left empty, which will set the value to 0

Known Bugs:

- When using SSH keys for authentication: Before using “cli cluster promote-to-main” explicitly use “cli auth -u “USERNAME” -p “PASSWORD”

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet BN PRO software update package
- Mounting and installation instructions
- This Release Note

Release Note V1.4.2

03.03.2026

Supported BlueNet devices:

BN PRO Metered, BN PRO Metered+, BN PRO Switched(+), BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.3.3 and can be installed as an update to all former BN PRO / BlueNet BN Gen2 software releases. It is recommended to create a backup before performing the update.

Note: Under certain circumstances, the energy meter display may show a deviation. This occurs when the PDU controller is restarted – for example, during a software update or certain configuration changes. In rare cases, this can lead to an increased display of the energy consumption of the connected devices.

New Features:

- The Modbus TCP registers of the main PDU and link PDUs are now read via the unit/slave ID function, rather than by register shifting. The unit/slave IDs of the Link-PDUs correspond to the PDU indexes within the cluster
- Changes to the network configuration via the local GUI can now be protected by a PIN. The peak values of the PDU are also protected by this PIN
- Link PDUs in a cluster can be restarted using the command cli do reboot --pdu-id [pdu-id]
- Power supply status is displayed on the local GUI
- Voltage min/max values are now shown on the local GUI
- CEE7/3 sockets now have a matching icon in the web front end. (Further integration of CEE7/3 sockets into BN PRO PDUs will take place in the course of 2026.)

Enhancements:

- Performance improvements to the web front end
- More user-friendly provisioning PIN method when setting up a cluster
- Fix of known Bug (Backup restore)
- Quota introduced for home directory to prevent boot loops

Known Bugs:

- When using SSH keys for authentication: Before using “cli cluster promote-to-main” explicitly use “cli auth -u “USERNAME” -p “PASSWORD”

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet BN PRO software update package
- Mounting and installation instructions
- This Release Note

Release Note V1.3.3

14.10.2025

Supported BlueNet devices:

BN PRO Metered, BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.3.1 and can be installed as an update to all former BlueNet BN Gen2 / BN PRO software releases. It is recommended to create a backup before performing the update.

New Features:

- None

Enhancements:

- Fix of known bug in v1.3.1
- Fix of bug within `cronjob`

Known Bugs:

- When using SSH keys for authentication: Before using “cli cluster promote-to-main” explicitly use “cli auth -u “USERNAME” -p “PASSWORD”
- Backup does not restore signal chain attached to the PDU layer status

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet BN PRO software update package
- SNMP MIBs
- Mounting and installation instructions
- This Release Note

Release Note V1.3.1

15.08.2025

Supported BlueNet devices:

BN PRO Metered, BN PRO SecureSwitching+; BN Gen2 PDUs (all models)

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.2.4 and can be installed as an update to all former BlueNet BN Gen2 / BN PRO software releases. It is recommended to create a backup before performing the update.

New Features:

- PDU cluster functionality via CLI and web
- MCB current measurements

Enhancements:

- Improved robustness of the web certificate
  - fix of known bug in v1.2.4
- `cli do reboot` now requires a confirmation
- Adjust color of leds from orange to yellow
- Add sorting function for Event logs in web-frontend
- Network and DNS settings (IPv4, subnet prefix)
- Offline status for the external sensors after a FW-update
- GUI stability at startup

Known Bugs:

- RCM connection occasionally lost after update/restart
  - Workaround: Restart PDU

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet Gen2 BN3000 SW Update package
- SNMP MIBs
- Mounting and installation instructions
- this Release Note

Release Note V1.2.4 / REV01

31.07.2025

Supported BlueNet devices:

BN PRO Metered, BN3000 Gen2, BN3500 Gen2 SecureSwitching

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.1.1 and can be installed as an update to all former BlueNet Gen2 BN3000 SW releases. It is recommended to create a backup before performing the update.

New Features:

- Cronjob can be configured
- Network settings on web frontend with updated design
- External sensor added to SNMP and Modbus TCP
- Local gui: external sensor support
- Local gui: RCM and RCM selftest support

Enhancements:

- Bugfixes and improved performance
- user access rights correction when using ssh keys
- Switch from timesyncd to chrony as ntp client (and server)
- Changed behavior when setting the time
- Users with appropriate rights can create trap receivers, not just the admin
- PDU Chassi downward compatible with controller
- Known bug v1.1.1 fixed

Known Bugs:

- Mismatched SSL certificates and keys can result in a blocked PDU.

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet Gen2 BN3000 SW Update package
- SNMP MIBs
- Mounting and installation instructions
- this Release Note

Release Note V1.1.1

01.02.2025

Supported BlueNet devices:

BN PRO Metered, BN3000 Gen2, BN3500 Gen2 SecureSwitching

Information:

This SW release is completely validated to cover the existing functionality of the former release V1.0.3 and can be installed as an update to all former BlueNet Gen2 BN3000 SW releases. It is recommended to create a backup before performing the update.

New Features:

- LDAP
- For 3-phase PDUs, the peak current of the phases can be reset from the Local GUI
- Support for external temperature sensor
- SD cards and USB sticks are mounted automatically
- SSH Keys over Web and CLI
- Signal chains no longer need to be activated manually

Enhancements:

- Bugfixes and improved performance

Known Bugs:

- Settings are not saved (fixed after the second reboot)

Deliverables (to be downloaded from www.bachmann.com):

- BlueNet Gen2 BN3000 SW Update package
- SNMP MIBs
- Mounting and installation instructions
- this Release Note