

MCS Release Note

Product Type: MCS-Config Software Revision: 19.01.24

Release Date: December 12, 2025

BETA Release 19.01.24 - Friday, December 12, 2025 Log:

Overall Summary:

- This beta release expands V19 capabilities across DPRV AO controls, heat pump condenser control, Modbus Master support (including Input Status FC02 / R-FC02), and RO/SI user logic operand/operator expansion. It also includes a broad stability and validation pass across BACnet (extended device IDs, MS/TP station ranges, naming conventions), network/BMS grids, and CSV/print outputs, plus improvements to conversion defaults and configuration persistence.

Bug Fixes:

- Corrects V19 DPRV default valve percentage storage to ensure consistent behavior and reliable configuration handling.
- Validates and clamps the V19 database revision number to prevent invalid saved values.
- Fixes Ethernet gateway field 1 not saving correctly; adds input range enforcement (0–255), clear feedback on invalid values, and defaults to 192.
- Resolves build/compilation issues introduced during V19 SI operand/operator expansion work.
- Fixes V19 MS/TP station (port 2) field visibility so it only appears under the correct conditions.
- Enforces valid V19 MS/TP station values and uniqueness to prevent BACnet MS/TP addressing conflicts.
- Validates and defaults V19 BACnet extended device IDs to prevent invalid values from causing unexpected behavior or conflicts.
- Prevents crashes caused by excessive circuit counts (fixes out-of-bounds conditions across multiple screens including circuit base and BMS points).
- Enforces a 16-circuit maximum for CENT configurations in both V17 and V19, including at setup selection time (not only on form load).
- Fixes V19 CSV export row counting for the compressor points states grid info section to ensure accurate, correctly formatted output (aligned with updated BACnet object mapping used by Nitromag firmware).
- Expands V19 RO Cycles Modbus point capacity to support more points without overflow in the BMS Points grid and respective csv export section.
- Updates V19 BMS network grid AV IDs for key network values (Net_R/S, Net_Tar/Res, Net_Demand_FLA, Net_Demand_Steps).
- Fixes cases where V19 network points could fail to appear due to an early-exit condition in the network grid logic.
- Improves reliability of V19 network point population in the BMS points screen to prevent missing points under certain display-type conditions.

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- Fixes V19 BACnet network info object tracking/counting so objects are registered consistently.
- Updates V19 BMS network grid to compute row counts dynamically based on actual configured points for accurate display/export behavior.
- Aligns V19 BMS writable point naming with firmware output by appending “_BAS” for consistent BAS naming.
- Aligns V19 AO BACnet naming with firmware output by prepending “AV_” for consistent object naming.
- Fixes V19 PMGR unit control state naming and ensures full BACnet state coverage where required.
- Verifies V19 BMS points print/export behavior across software types. (Note: BMS Gateway print/export remains a work in progress and may still be unstable in this beta.)

Enhancements:

- Adds standardized UInt16 conversion utilities for consistent numeric/text handling.
- Improves RO run hours naming and grid sizing so point names fit cleanly and map correctly to V19 BACnet objects.
- Strengthens V19 Modbus form validation for AO multiplier/divisor/offset (range enforcement, live validation, revert-to-last-valid, clear feedback).
- Strengthens V19 Modbus form validation for SI multiplier/divisor/offset (same consistent validation workflow).
- Strengthens V19 Modbus form validation for RO multiplier/divisor/offset (same consistent validation workflow).
- Adds a comprehensive, consistent on-load and on-submit validation pass across V19 Modbus forms.
- Improves overall V19 MS/TP station input workflow (prevents empty/invalid values, restores last valid values, ensures correct field population by port).
- Improves V19 Modbus master form input UI order/tab flow for better usability.
- Improves readability of V19 BACnet setup controls (clearer baudrate/protocol controls; larger MS/TP station input).
- Refactors V19 BACnet CSV output for clarity and accuracy to keep point/object mapping consistent with firmware.
- Refactors N2 config generation approach for improved consistency (WIP).

Features:

- Adds support for DPRV target offset input and updates default valve controls (moves to clearer text inputs).
- Implements V19 DPRV load/save behavior so DPRV default valve % and target offset persist correctly in the DPRV AO form.
- Adds heat pump condenser control to the V19 HVAC info screen (bit-based behavior: default reverse action; set forces condenser to 100%).
- Expands RO User Logic to support operands 3 & 4 and operators 2 & 3 (V19 expansion).

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- Expands SI User Logic to support operands 3 & 4 and operators 2 & 3 (V19 expansion).
- Adds Modbus Master data type options “Float 32 Bit High” and “Float 32 Bit Low” for V19 configurations.
- Adds V19 Modbus Master Input Status (FC02 / R-FC02) support for SI, RO, AO, and General points (discrete input contacts).
- Adds full DPRV AO control support across UI and grids, including new DPRV AO configuration options and correct persistence behavior.
- Adds extended BACnet device ID support over RS485, including conversion initialization and setup form support with validation.
- Adds new AV point constant definitions (AO + run-hour/cycle-count-related points) for consistent object mapping.
- Improves BACnet naming completeness for V19 to support more consistent BMS/BACnet points data. Relays are now BV' and Analog Outputs are now AV's. Updated RO Run Hours, RO Cycles, setpoints, unit control info points, compressor points, writeable setpoints, and alarms built-in BMS mappings. N2 and Lontalk are still a WIP.
- Improves DPRV AO conversion defaults and DPRV AO form polish so newly converted V19 configurations start in a predictable, usable state.

Patches:

- Adjusts heat pump condenser UI/control placement and underlying mapping to ensure correct behavior and reliable saved settings. (V19)
- Updates BACnet MS/TP address entry to a faster textbox-based input and refines visibility behavior. (V19)
- Removes BACnet IP network number configuration to match updated functionality, including conversion/UI handling updates. (V19)
- Improves conversion stability for new V19 RO operators (2 and 3) by ensuring consistent initialization and compatibility during conversion. (V19)
- Updates BACnet MS/TP communication limits (max masters to 127, max frames to 10) to support expected MS/TP operation. (V19)
- Aligns BACnet MS/TP station ID valid range to the BACnet standard (0–127) for both RS485 ports. (V19)
- Refactors and upgrades the BACnet setup form to fully activate/handle extended Device ID logic. (V19)
- Extends heat pump RO index conditions to cover additional heat pump + heat recovery configurations. (V19)
- Updates RS485 port 2 MS/TP station address handling during V19 conversion for correct station mapping. (V19)
- Enforces the 16-circuit limit for V17 centrifugal chillers when selecting CENT in setup (scope as noted).
- Updates DPRV AO indexing/alignment logic to preserve conversion compatibility and consistent configuration behavior. (V19)
- Adds clearer user guidance when subcooler/phase loss settings initialize to

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zero (including prompts to set related SIs to “Not Used” as appropriate on CFG read-in). (V19)

- Ensures warning prompts can re-trigger after acknowledgment (prevents prompts from being suppressed indefinitely). (V19)
- Refactors BMS gateway setpoints grid update logic to improve behavior for read-only vs writable setpoints. (V19)
- Updates V19 BMS gateway alarms grid logic for N2 to improve calculations and behavior on non-RTU configurations (WIP).