General Information

This update can be used exclusively for the **PSS®SINCAL Platform 22.0**, not for other product versions!

Procedure for Installation

- Close all running PSS SINCAL Platform applications.
- Decompress the Zip archive.
- Start the installation using AutoRun.exe or Sincal\SincalSetup.exe. The setup automatically detects the existing PSS SINCAL Platform installation and updates all components.

If you have any questions, please contact **PSS SINCAL Platform Support** (phone +43 699 12364435, e-mail sincal.support.it@siemens.com).

Additions/Corrections Update 8 (October 30, 2026)

This update includes all additions from previous updates, along with the following error corrections and new additions.

PSS SINCAL User Interface

- Update Graphics
  An error that occurred when positioning nodes in geographical views has been fixed. This error prevented the status dialog box from closing and caused the GUI to freeze.
- Transformers
  Correction of an error when saving the neutral point selection values (Isolated) for two- and three-winding transformers.
- Grading Diagrams
  Correction of a display error regarding the directional final time in the X(t) grading diagram. If the values for the last two zones were identical, the final time was not displayed.
- Highlight
  - Fixed an error where protection zone results displayed as highlights in the network view caused sections of the elements with buckle points to be rendered incorrectly.
  - Fixed an error that occurred when highlighting fault locations in the graphics editor from the fault location result view.
- Feeder
  Fixed a bug in the dialog box that occurred when the input dialog box was opened via the pop-up menu for virtual/auto-detected substations.

PSS SINCAL Electrical Networks

- Power Flow (PF)
  Fixed a bug that caused the data source for the results to be determined incorrectly.

- Feeder Tracing (FEEDER)
  Correction of an error in determining voltage levels in auto-detected substations (based on node types).

- Protection Simulation (OC, SZ)
  - If the earth fault detection was set to the "Detect" mode and a time was specified, it did not function correctly. This issue has been resolved.
  - Fixed a bug in the result table that caused the values for protection devices that had not tripped to be displayed in the wrong columns.
  - Correction of an error in the simplified differential protection on lines around the transformer.
  - Correction of an error in the MiCOM P43x protection device implementation. The directional final time t7 took effect even for faults in the opposite direction to the set direction, causing the device to trip after t7—for example, in the case of reverse-direction faults—despite the forward-direction time setting.
  - Fixed a bug that prevented fault observations on coupled lines from returning any results.

PSS SINCAL Pipe Networks

- Operating Series with Pressure-Dependent Consumption Decrease
  Fixed an error in the calculation of operating series, which caused operating points factors to be ignored for consumers with pressure-dependent consumption decreases.

PSS SINCAL Automation

- Automation of Calculation Methods
  An error that occurred when importing CIM ZIP files into a purely virtual database has been fixed. If a connection to the persisted database with “_files” directory was not established prior to the import, the ZIP file could not be extracted, and no data could be imported.

PSS NETOMAC

- Fixed a bug that could occur when processing the XMAC file.

Additions/Corrections Update 7 (August 28, 2026)

This update includes all additions from previous updates, along with the following error corrections and new additions.

PSS SINCAL User Interface

- Updating the Switch Symbols
  Fixed an issue where the switch symbols (open/closed) in the network view failed to update when multiple views were used.

- Converter
  The converter considers the "S and cosφ" input format for the following functions:
  - Determine Data - Load Data
  - Evaluation - Energization for Island Operation - Start Element
  - Feeder Tracing - Start Element when checking the energization of the feeder nodes

- Create Graphics
  A problem with the "Create Graphics" function in the network browser has been fixed. Missing graphic elements were not generated when the "Create Missing Nodes" option was enabled.

- Update Graphics
  Fixed a bug that occurred when updating the topology display in the network browser. The issue occurred when only network elements without graphical information were displayed and nodes had been dragged into the network view.

- Excel Import
  - Fixed an error that occurred when updating Master Resources using the Excel import.
  - Fixed an error that occurred when importing Master Resources into pipe networks.
  - Fixed an error that occurred when processing graphics data during an Excel import if no points were specified for the graphic element.
  - Fixed an error that occurred when importing or updating master resources. The "RowType" column was not processed correctly, which prevented the import of MRIDs for additional tables (protection devices, measuring devices, etc.).

- Variants
  Fixed a bug that occurred when defining a new base variant using the Variants dialog box. The subvariants were not deleted even though the option was enabled.

- Multi-User Master Database
  Fixed a bug related to deleting users.

PSS SINCAL Electrical Networks

- Load
  Correction of an error in the conversion of load power from kW to MW in the "Pi and Qi" input format.

- Unbalanced Power Flow Phase Data (PF)
  Corrected an error where the transformer tap data on side 2 was applied using an inverse ratio, leading to incorrect phase results.

- Short Circuit (SC)
  - In specific unbalanced network configurations involving converters, short-circuit current calculations yielded values that were too high at all nodes. Calculations performed for a single node, however, were correct.
  - Correction of an error in considering dynamic voltage support during a short circuit. This error could have caused the current of the elements participating in voltage support to be insufficiently reduced according to the network voltage.

- Resupply
  Correction of a bug when saving the resupply group results (not supplied consumers, not supplied power).

- Protection Simulation (OC, SZ)
  - Correction of a tripping error that occurs when two separate distance protection settings (for phase and ground) have been assigned to a protection device.
  - A bug related to differential protection on transformers connected directly to switches or

connections has been fixed. The bug caused the differential protection to trip every time.
  - The calculation of impedance for SIPROTEC-5 devices in the input data has been corrected. As a result, the impedance pickup is now calculated based on the correct values.
  - Fixed an issue where reclosers failed to trip in the presence of a ground loop when active phase settings were applied.
  - Fixed an issue where protection devices that should trip during a loop but whose mechanical response time delayed tripping until a subsequent loop, were not correctly considered in the simulation.

- Protection Analysis (PSA)
  - Correction of an error in the calculation module where, during clearing time calculations without voltage protection, the global tripping time was incorrectly added to the clearing time.
  - Correction of an error in the design of protection routes using three-winding transformers.

- Load Assignment (LA)
  Correction of an error during the allocation of power values for participating loads in the iterative mode.

- CIM Import/Export
  - Fixed a bug in the export of the sin: extensions, which caused the information to be exported to all files rather than just the main file of the cim: object.
  - Fixed an issue when exporting the SV file. The power flow results were not exported using CGMES 3.0.
  - Correction of an error that prevented the CIM export when 2-phase converters were present in the network model.
  - Fixed an issue that prevented the proper import and export of boundary sets using CGMES 3.0.
  - Fixed an error that occurred when importing zero-phase sequence data for transformers with a YNYN vector group.
  - Fixed a bug that prevented dynamic data from being generated during CIM export.

PSS SINCAL Automation

- Database Manager
  Fixed an issue with setting parameters via the API in the Database Manager.

Additions/Corrections Update 6 (April 29, 2026)

This update includes all additions from previous updates, along with the following error corrections and new additions.

PSS SINCAL User Interface

- Graphics Layer Dialog Box
  Fixed an issue with renaming graphics layers.

- Diagrams
  - Fixed a bug in the "Format Diagram" dialog box that occurred when editing characteristic curves in the variant comparison, which caused the variant name to be handled incorrectly

and always automatically appended to the signal.
  - In the "Format Diagram" dialog box, when editing signal objects (such as labels, etc.), the characteristic name is now displayed alongside the variant name.

- Routes
  The length calculation within views using the WebMercator projection has been fixed when assigning a line to routes.

PSS SINCAL Electrical Networks

- Three Winding Transformer
  An issue with the control algorithm has been corrected in time-series calculations involving three-winding transformers when using the admittance matrix power flow method.

- Power Flow (PF)
  In modules performing multiple power flow calculations, error E 2910 could occur due to a problem with resetting the control system. This issue has been resolved.

- Optimal Branching (OT)
  Fixed a display issue that occurred when applying OT results in multiple network views. The switch state was not always displayed correctly in all views.

- Dynamics (ST/EMT)
  - Fixed an issue with the creation of the .net file for PSS NETOMAC for EMT simulation where some PSS SINCAL line models were not correctly represented.
  - Fixed an issue when exporting DFIG input data (slip and stator power) to PSS NETOMAC.

- Feeder (FEEDER)
  - Evaluations: Improved performance when enabling or disabling substations or feeders displayed in the network browser.
  - Substation Loopthrough: Fixed an issue that prevented all feeders from a substation from being fully processed when the substation was reached multiple times and the individual feeders within it were isolated from one another.
  - Resupply: Fix an issue in the feeder-based resupply.
  - Fixed an issue when saving the feeder tracing results, where the phase information L123 was always written to the result tables.
  - A warning message has been added to notify users that when using include networks, feeder tracing is performed based on the main network model only.

- CIM Import/Export – CGMES 3.0
  - Support for phase information (cim:Terminal.phases)
  - Transformer Rated Power Sn based on phase information
  - Correction in the calculation of the R/X ratio of a SynchronousMachine

Additions/Corrections Update 5 (March 31, 2026)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Tabular View
  Correction of an error in records for network elements with standard types in the tabular view.
- Diagrams
  - Automatically updates the open diagram view when creating diagrams for protection devices from the network graphic via the pop-up menu.
  - Fixed a program error that occurred when attempting to display the input data for a network element that had already been deleted.
- Graphic View
  - Extended annotations in the network graphic for the variable serial element. The input data for the short circuit condition can now also be displayed.
  - Fixed an error that occurred when copying element switching times.
  - Fixed an issue with resizing polylines.
  - Consideration of the WebMercator projection in geographical views when calculating the area of polygons.
- Set Input Status
  Advanced feature for converters: the "Equivalent Converter" attribute is now available.
- PDM Import and Export
  - Enhancement when creating protection devices in the "Substation & Bay" module when multiple settings are available.
  - The MRID for protection devices was not created correctly in conjunction with variants.
  - Extended export of settings in the "ProtPickup" and "ProtDIRelais" tables using a common function (Func_ID).

PSS SINCAL Electrical Networks

- Power Flow (PF)
  The fixed setting for the separate reverse control did not work correctly in certain cases. This issue has been resolved.
- Resupply
  Enhancements and corrections for processing switches in the calculation module for feeder-based resupply.
- Protection Coordination (OC/SZ)
  - Fixed an issue where reclosers did not always trip correctly.
  - Directional final time for UI pickup: If the directional final time was shorter than the non-directional final time and the error was detected in the backward direction, the directional final time might still trigger.
- Protection Devices
  There have been changes to the final times of the protection devices. For SIPROTEC5 devices, there are no longer separate final times for the available pickups. SIPROTEC3 devices and PDx devices, on the other hand, now have separate final times. To enable these changes, you must use the new protection device database included in the update.

- Switches
  Fixed an issue in the input dialog for the switch. The button to enable the input fields for optimization was not available.
- Harmonics (OB)
  Current and voltage sources in a serial DC element were not considered.
- CIM Import/Export
  - Correction and improvement of the input data determination for synchronous machines from CGMES 2.4.15 and CGMES 3.0.
  - Fixed an issue that occurred when exporting a converter to CGMES 2.4.15 and CGMES 3.0, which caused the extended sin: attributes to be exported incorrectly.

PSS SINCAL Automation

- Calculation Methods
  Correction to the API function GetResultFile() for feeder tracing. When saving results, the file number is always appended with the active variant, but the API function returned the file name without the variant ID.

Additions/Corrections Update 4 (February 26, 2026)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL Electrical Networks

- Short Circuit (SC)
  - The short-circuit contribution of the converter could not be deactivated when calculated according to "VDE 0102/2016 - IEC 60909/2016".
  - Correction of a problem with dynamic voltage support in the case of unbalanced faults. The contribution in the counter system was not considered correctly.
- Protection Simulation (OC/SZ)
  - Correction of a problem with the switch response time. If a switching time was specified and an impedance pickup without an end time, then the impedance pickup (6A) always tripped with the switching time.
  - Correction of a problem in determining the fault clearing time for parallel lines.
- Pickup at DI Protection Devices
  - SPRECON-E-P DD6 has a split mode for current and UI pickup, as both can only be deactivated or activated together. SIPROTEC 5 devices now have completely separate final times for all three pickup types.
  - Impedance pickup MiCom P44X and GRL100: The minimum impedance pickup current was used, even though the parameter could no longer be entered. It could only be changed via the tabular view.
  - A problem with current pickup in MICOM P43 has been corrected. Non-directional current pickup is also taken into account if no end time (t8) is specified.
- Load Assignment (LA)

  - Fixed a bug in determining the available results in the result dialog box, which prevented the menu item from being enabled in the pop-up menu of the load.
  - For loads that are not included in the load assignment, the load assignment data source was also incorrectly entered as the result.
  - During automation, some start parameters were overwritten by the calculation settings, even though these should not be used.
  - Correction in determining the power in the case of multiple assignment of loads in meshes.

- Measuring Device
  Correction of an error when processing the time series profile with the input format "I and cosφ".

- Load
  For loads with load input formats P and Q, the profiles "S and cosφ" and "f and cosφ" are no longer supported.

- Coupling Data for Lines
  Fixed an issue where ".cpl" and ".leika" files with empty names could not be created.

- Load Allocation
  In conjunction with the Newton-Raphson power flow calculation, this function could cause some connection points to incorrectly return no results because the power flow did not converge. This issue has been resolved.

- Importing Protection Device Settings (PDM)
  Extension for importing pickup settings (ProtPickup).

Additions/Corrections Update 3 (January 30, 2026)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Dialog box for Measurement Data and Load
  Improved display in the dialog box for values with the input format "Pi and Qi".

PSS SINCAL Electrical Networks

- Harmonics (OB)
  An error in the generation of harmonic diagrams with node level values has been corrected. The appropriate value corresponding to the node results was not always stored in the signal database.

- Dynamics (ST, EMT)
  Correction of an error in the identification of the signal output of all machine variables of an ASM, which resulted in the signals not being correctly available in the signal browser.

- PDM Import
  Import master resources when new protection devices are created in the network model.

PSS SINCAL Pipe Networks

- Pressure-dependent Consumption Reduction
  Improvement of pressure-dependent pressure consumption reduction in poorly converging networks.

Additions/Corrections Update 2 (December 22, 2025)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- PSS NETOMAC Log Result View
  Correction of a program crash when a line in the LOG exceeded the length of 256 characters.
- Include Network Models
  An error when synchronizing results in open Include network models has been corrected. This could cause active evaluations to lead to a program crash if the database was still locked.
- Network State
  An error when importing a network state XML file with MRID identification has been corrected. This caused network elements to be identified incorrectly and no data to be transferred.
- Highlight
  Improved highlighting of transformers when only the terminals are highlighted.
- Evaluations
  Correction of an error in the feeder evaluation, which meant that the name was not updated and an old, incorrect name was displayed in the evaluation list.

PSS SINCAL Electrical Networks

- Load Assignment (LA)
  The power flow calculation using the "Unbalanced (MGN)" and "Flat Start" methods in combination with operating points and control elements in the network could lead to errors. This problem has been fixed.
- Distance Protection Devices
  The final times for impedance pickup have been added back.
  - No final times:
    SIPROTEC 4, SIPROTEC 5, EASERGY P3, MiCOM P44x;
  - Final times divided by current pickup:
    MiCOM P43x, PD532, PD551, PD552, SPRECON, SIPROTEC 3, REL670/RED670, REF630;
  - All other types of protection devices have their own final times for phase and ground.
- Distance Protection Devices
  If the final time is 0.0 s but a proper time has been entered, the protection device has triggered incorrectly with the end time instead of the stages.
- Switch

A problem with the processing of switching actions has been fixed. If switches with individual phases had switched off all phases, they could not be switched back on again. This could occur, for example, during contingency analysis or resupply.

- Protection Documentation
  Correction of an error in the layout of the network graphic in the protection documentation, which meant that the set length was no longer used for branch elements.
- Resupply with Feeder Tracing
  The feeder tracing in the re-supply module is incorrect. Now, the calculation module determines the same feeders as in the user interface.
- Thermal Destruction Analysis (TDA)
  Nodes with ipmax > 0.0 were included in the analysis, even if Ik"max was 0.0.
- Network Stress Test (NST)
  Correction of an incorrect error message when starting the calculation module.
- Static Network Reduction (NR)
  When static network reduction was performed with logging enabled, false errors were logged. However, these had no impact on the result.

Additions/Corrections Update 1 (November 28, 2025)

This update contains the following error corrections and additions.

PSS SINCAL User Interface

- Geographical Positions at Nodes
  Correction of an error when saving the automatically determined geographical position (latitude and longitude) for newly created nodes.
- Routes
  Correction of an error in the length calculation for the Route element.
- Tabular View
  - Correction of a captioning problem with some attributes in external databases (e.g., ResultElement_ID).
  - Correction of an error, which sometimes caused all fields to be displayed as read-only.
- Print
  Correction of an error when printing highlights. These were displayed in a reduced size in the upper left corner of the printout.
- Excel Import
  Enhancement of the import function to also support the old XLSX format, in which texts (strings) are stored in a different form.
- Fit In
  Correction of an error when opening the Fit In dialog box, which meant that some of the controls for defining the reference coordinates were only activated by changing the selection in Projection.

- Evaluation
  Correction of an error in the resupply evaluation in combination with the highlight option. The colors were not correctly assigned to the resupply results.

PSS SINCAL Electrical Networks

- Line
  Correction of an error when updating the type when using line segments.
- Power Flow (PF)
  Correction of an error when applying the coincidence factor to feeder-based areas and when using the substation model.
- Load Assignment (LA)
  Correction of an error when applying symmetrical or single-phase results as input data (factor), which caused the input format to switch to Pi/Qi instead of storing the values using the factors fP and fQ.
- Load Balancing (LB)
  An error in the calculation module has been corrected, which caused the PI equivalent circuits of network elements to be partially incorrect, which could lead to suboptimal results.
- Time Series (LP)
  Correction of an error in time series calculation in connection with Newton-Raphson power flow and the load factor.
- Protection Routes
  Correction of an error in the display of zone details for multiple selections in the result browser. Previously, the tripping time of the zone from the first device was displayed. However, this can vary from device to device and should therefore not be displayed.
- Setting Value Calculation (DI)
  Correction of error E 3370 in the distance protection setting value calculation.
- Distance Protection Devices
  New operating modes for UI pickup are now available for the SIP4, SIP5, SPRECON, and Schneider P43x series of protective devices.
- Arc Flash (AFH)
  Fixed a bug that occurred when protection devices were installed directly on network elements such as serial reactors.
- Dynamic Simulation (ST/EMT)
  - The generation of the NET file has been adjusted: If the line simulation is used with the H model (homogeneous line) without all the necessary requirements being met, a standard line is now generated automatically.
  - Machine Controller
    Automatic definition of the variable #MBASE before calling the machine controller with the rated power of the machine.
- CIM Import
  Correction of an incorrectness when importing CIM files with a geographic view. The projection in the current view was always set to "Generic" instead of "WebMercator".

PSS SINCAL Automation

- Calculation Methods
  Correction of an error when retrieving calculation results via the API. Depending on the table and query, no matching results were returned.

PSS NETOMAC

- Graphical Model Editor (GMB)
  Correction of incorrect help link when editing blocks in the Parameter dialog boxes.